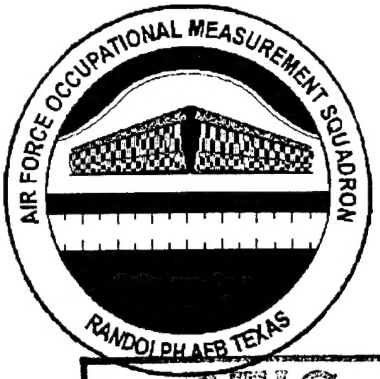

UNITED STATES
AIR FORCE

OCCUPATIONAL SURVEY REPORT

NONDESTRUCTIVE INSPECTION

AFSC 2A7X2

AFPT 90-458-996

AUGUST 1995

OCCUPATIONAL ANALYSIS PROGRAM
AIR FORCE OCCUPATIONAL MEASUREMENT SQUADRON
AIR EDUCATION and TRAINING COMMAND
RANDOLPH AFB, TEXAS 78150-4449

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PREFACE

This report presents the results of an occupational survey of the Nondestructive Inspection career ladder, AFSC 2A7X2. Authority for conducting occupational surveys is found in AFI 36-2623. Computer products used in this report are available for use by operations and training officials.

Chief Master Sergeant Jeffrey L. Milligan, Inventory Development Specialist, developed the survey instrument. First Lieutenant Peter M. Berg, Occupational Analyst, analyzed the data, and wrote the final report. Ms. Olga Velez provided programming support, and Ms. Linda McDonald provided administrative support. This report has been reviewed and approved for release by Major Randall C. Agee, Chief, Airman Analysis Section, Occupational Analysis Flight, Air Force Occupational Measurement Squadron (AFOMS).

Copies of this report are distributed to Air Staff sections, major commands, and other interested training and management personnel. Additional copies are available upon request to the Air Force Occupational Measurement Squadron, Attention: Chief, Occupational Analysis Flight (OMY), 1550 5th Street East, Randolph Air Force Base, Texas 78150-4449.

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SUMMARY OF RESULTS

1. *Survey Coverage*: This report is based on responses from 463 AFSC 2A7X2 respondents, which represents 73 percent of all assigned AFSC 2A7X2 personnel.

2. *Specialty Jobs*: Structure analysis identified one cluster and two independent jobs: The General Inspection cluster consists of six jobs: Core General Inspection, JOAP Specialist, JOAP Technician, Shop/Assistant NCOIC, Radiographic Inspection, and Supervisor/Analyst. The two independent jobs are the Apprentice job and the Supervisor job.

3. *Career Ladder Progression*: AFSC 2A7X2 personnel follow a typical skill level progression. Three-skill level personnel primarily perform basic technical tasks, while 5-skill level personnel perform broader jobs. Seven-skill level personnel perform supervisory, administrative, and training tasks which account for 31 percent of their time. Members of all skill levels perform a number of common nondestructive inspection tasks.

4. *AFM 36-2108 Specialty Descriptions*: The AFMAN 36-2108 *Specialty Description* for the Nondestructive Inspection career ladder was reviewed and found to provide an accurate description of the jobs performed by each skill level.

5. *Training*: An analysis of the November 1991 STS and the C3ABR45831 POI (dated 29 April 1992) shows that both documents are extremely sound. Only two STS elements, relating to preparation of statements of charges and atomic absorption, were not supported by survey data. Four POI learning objectives were not supported. There were also a few technical tasks not referenced to either document. These unsupported STS elements and POI learning objectives, as well as the unreferenced tasks, should be reviewed by training personnel to ensure that both documents are complete.

6. *Job Satisfaction*: Overall, AFSC 2A7X2 respondents are satisfied with their jobs. When compared to other mission equipment maintenance specialties surveyed in 1993, AFSC 2A7X2 personnel show relatively higher job satisfaction. When compared to the career ladder reviewed in the 1987 (AFSC 458X1) Occupational Survey Report (OSR), current survey data indicate that job satisfaction has improved across all total active federal military service (TAFMS) groups. A comparison of jobs identified in the current sample reveals members in the General Inspection cluster have the highest level of job satisfaction, while personnel in the Supervisor job group are the least satisfied.

7. *Implications*: The Nondestructive Inspection (AFSC 2A7X2) career ladder has not changed much since the last survey in 1987. The jobs still involve technical analysis and standard support functions. Career ladder progression is typical and the AFMAN 36-2108 *Specialty Description* is accurate. The technical training program is sound and both the STS and POI are well supported by survey data. Job satisfaction data show the members of the career ladder are generally satisfied with their jobs.

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OCCUPATIONAL SURVEY REPORT (OSR)
NONDESTRUCTIVE INSPECTION
AFSC 2A7X2

INTRODUCTION

This is a report of an occupational survey of the Nondestructive Inspection career ladder (AFSC 2A7X2). This survey was conducted to collect current data for use in validating training documents. The last occupational survey for this career ladder was published in January 1987.

Background

As described in the AFMAN 36-2108 *Specialty Description*, AFSC 2A7X2 personnel are responsible for determining test methods, preparing for inspections, and interpreting and evaluating results of test methods conducted to detect discontinuities and flaws in missiles, aircraft, and aerospace ground support equipment. These duties include preparing used engine lubricating oil and other fluid samples for spectrometric oil analysis, performing test methods to identify discontinuities and flaws in component parts and integrity of pressurized systems, and measuring thicknesses of materials. Furthermore, they operate and perform operator maintenance on portable and fixed test equipment, operate and perform operator maintenance on oil analysis spectrometers, and develop exposure charts to compute exposure data for radiographic techniques.

Initial 3-skill level training is provided through a 10-week, 4-day course at NAS Memphis TN. The Apprentice Nondestructive Inspection Specialist course, C3ABR45831-000, includes instruction in principles, development of techniques, and application of nondestructive inspection methods. The course also covers interpreting results from conducting tests on various materials. The course is projected to be moved from NAS Memphis in the near future (NLT FY 96), to an as yet undetermined location.

SURVEY METHODOLOGY

Inventory Development

Data for this survey were collected using USAF Job Inventory Air Force Personnel Test (AFPT) 90-458-996, dated January 1993. A preliminary task list was prepared after reviewing career ladder documents, tasks from the previous Nondestructive Inspection job inventory (JI), and data from the previous OSR. This preliminary task list was then validated through interviews with 37 subject-matter experts (SMEs) at the following organizations:

BASE	ORGANIZATIONS VISITED
Chanute AFB IL	3330 TCHTW
Dyess AFB TX	96 MS
Little Rock AFB AR	314 MS
Barksdale AFB LA	2 MS
Eglin AFB FL	3246 EMS
Hurlburt FLD FL	834 EMS
Luke AFB AZ	58 EMS
Travis AFB CA	60 EMS

The final JI contains 395 tasks grouped under 16 duty headings with standard background questions asking respondents to indicate pay grade, duty title, time in service, time in present job, time in career field, and job satisfaction. Additional background questions concerning inspections, equipment, and forms usage were asked. Responses to these questions are of use to functional and training personnel.

Survey Administration

From April to October 1993, Military Personnel Flights at operational bases worldwide administered the job inventory to all eligible AFSC 2A7X2 personnel. Members eligible for the survey consisted of the total assigned population of both career fields, excluding the following: (1) hospitalized personnel; (2) personnel in transition for a permanent change of station; (3) personnel retiring within the time the inventories were administered to the field; and (4) personnel in their jobs less than 6 weeks. Participants were selected from a computer-generated mailing list obtained from personnel data tapes maintained by the Air Force Military Personnel Center, Randolph Air Force Base, Texas.

Each individual who filled out an inventory first completed the identification and biographical information section. Next, respondents answered questions in the background portion of the inventory. They were then instructed to go through the booklet and check each task they perform in their current job. Finally, they were asked to go back and rate the relative amount of time spent on each task performed using a 9-point scale. Time-spent ratings range from 1 (indicating a very small amount of time spent) to 9 (indicating a very large amount of time spent).

Computer programs calculated the relative percent time each respondent spent performing tasks by first totaling the respondent's ratings on all tasks marked, dividing the ratings for each task by this total, and multiplying by 100. Percent time spent ratings from all respondents were used along with percent members performing values for various analyses in the study.

Survey Sample

Of the 636 members assigned in April 1993, 537 were eligible to be surveyed. The final sample includes responses from 463 respondents, representing 73 percent of the assigned and 86 percent of eligible members. Tables 1 and 2, comparing the MAJCOM and paygrade distributions, show the sample is quite representative of the assigned population.

Task Factor Administration

Job descriptions alone do not provide sufficient data for making decisions about career ladder documents or training programs. Task factor data were collected by asking selected E-6 and E-7 NCOs to complete either a training emphasis (TE) or task difficulty (TD) booklet. These booklets are processed separately from the job inventories, and the TE and TD data are considered when analyzing other issues in the study.

Training Emphasis (TE). TE is defined as the amount of structured training first-enlistment personnel need to perform tasks successfully. Structured training is defined as training provided by resident technical schools, field training detachments (FTDs), mobile training teams (MTTs), formal OJT, or any other organized training method. Forty-seven experienced AFSC 2A7X2 respondents rated the tasks in the inventory on a 10-point scale ranging from 0 (extremely low emphasis) to 9 (extremely high emphasis). Interrater agreement for these 47 raters was acceptable. The average TE rating is 3.10, with a standard deviation of 1.91. Any task with a TE rating of 5.01 or greater is considered to have high TE.

TABLE 1

MAJCOM REPRESENTATION IN SAMPLE

COMMAND	PERCENT OF ASSIGNED	PERCENT OF SAMPLE
ACC	53	54
AMC	15	16
AFMC	5	5
USAFE	12	9
PACAF	9	9
Other	7	7

TOTAL ASSIGNED = 636
TOTAL SURVEYED = 537
TOTAL IN SAMPLE = 463
PERCENT OF ASSIGNED IN SAMPLE = 73%
PERCENT OF SURVEYED IN SAMPLE = 86%

TABLE 2

PAYGRADE DISTRIBUTION OF SAMPLE

PAYGRADE	PERCENT OF ASSIGNED	PERCENT OF SAMPLE
E-1 to E-3	24	23
E-4	28	30
E-5	23	23
E-6	15	15
E-7	10	9

Task Difficulty (TD). TD is defined as an estimate of the length of time the average airman takes to learn to perform a task. Fifty-three experienced NCOs rated the difficulty of tasks on a 9-point scale ranging from 1 (extremely low difficulty) to 9 (extremely high difficulty). Interrater agreement was again acceptable. TD ratings are normally adjusted so tasks have an average difficulty value of 5.0, with a standard deviation of 1.0. Thus, any task with a TD rating of 6.00 or above is considered difficult to learn. TE and TD ratings, when used with percent members performing values, can provide insight into first-enlistment training requirements, help validate the need for structured training, and aid in the evaluation of the POI for the entry-level course.

CAREER LADDER STRUCTURE

The first step in the analysis process is to identify the career ladder structure in terms of jobs performed by the respondents. Comprehensive Occupational Data Analysis Programs (CODAP) assist by creating a job description for each respondent based on the tasks performed and relative amount of time spent on these tasks. The CODAP automated clustering program compares all individual descriptions, locates the two job descriptions with the most similar tasks and percent time ratings, and combines them to form a composite job description. In successive stages, new members are added to the initial groups, or new groups are formed based on the similarity of tasks performed and time ratings. This process continues until all possible respondents are included in a group.

The basic grouping in the hierarchical clustering process is the ***JOB***. When there is a substantial degree of similarity between jobs, they are grouped together and identified as a ***CLUSTER***. The structure of the Nondestructive Inspection career ladder is defined in terms of the jobs and cluster of jobs the 463 respondents perform.

Overview

Analysis of the data shows the job structure of AFSC 2A7X2 is organized into one cluster and two independent jobs. Most members in the career ladder perform jobs that fall in the General Inspection cluster. These jobs involve work related to the Joint Oil Analysis Program (JOAP), radiographic inspection procedures, and supervision. The job structure is displayed graphically in Figure 1 and in the outline presented below. The stage (STG) number listed beside each job title is a reference number assigned by CODAP, while the letter "N" refers to the number of respondents performing the job.

AFSC 2A7X2 CAREER LADDER JOBS

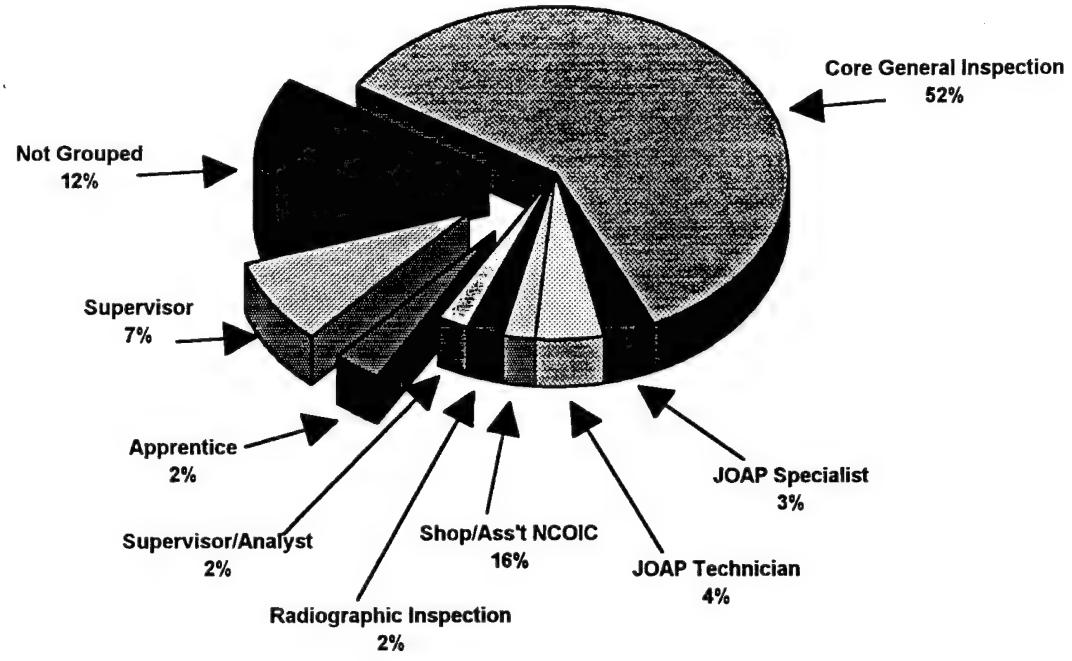

FIGURE 1

AFSC 2A7X2 CAREER LADDER JOBS

I. GENERAL INSPECTION CLUSTER (ST029, N=389)

A. Core General Inspection Job (STG103, N=239)
B. JOAP Specialist Job (STG62, N=16)
C. JOAP Technician Job (GP37, N=21)
D. Shop/Assistant NCOIC Job (STG83, N=75)
E. Radiographic Inspection Job (STG76, N=8)
F. Supervisor Analyst Job (STG51, N=11)

II. APPRENTICE JOB (STG25, N=12)

III. SUPERVISOR JOB (STG19, N=33)

Some respondents did not group into a specific job (12 percent). The patterns of tasks performed by these incumbents were very diverse, and as a result, these incumbents did not fit within the identified jobs, nor were they similar enough to one another to form jobs on their own.

The amount of time members of career ladder jobs spend on duties is presented in Table 3, while selected background data is presented in Table 4. Brief descriptions of each job are presented below, while representative tasks performed are listed in **APPENDIX A**. Table 5 shows a comparison between jobs identified in the current OSR and the 1987 survey.

Included with each job description is also a listing of task modules that represent tasks likely to be co-performed by job members. Each listing displays the number of tasks in the module and the percent of job time members spend performing tasks within the module (PERCENT TIME SPENT). A complete listing of the tasks that comprise each module is presented for reference in **APPENDIX B**.

I. GENERAL INSPECTION CLUSTER (STG029, N=389). The General Inspection cluster members perform a broad range of technical activities associated with conducting the Air Force's nondestructive inspection program. Six distinct jobs were identified within the cluster. Most of these jobs involve a large number of general nondestructive inspection tasks, such as cleaning NDI equipment, interpreting penetrant indications, and locating information by reference to technical data. Each of the six jobs, however, is distinguished by the time members spend on specific tasks.

TABLE 3

AVERAGE PERCENT TIME SPENT ON DUTIES BY CAREER LADDER JOBS

	DUTIES	CORE GENERAL INSPECTION (ST103)	JOAP SPECIALIST (ST62)	JOAP TECHNICIAN (GP37)	SHOP/ASST NCOIC (ST83)
A	ORGANIZING AND PLANNING	1	1	3	6
B	DIRECTING AND IMPLEMENTING	3	1	6	9
C	INSPECTING AND EVALUATING	1	1	3	6
D	TRAINING	1	*	2	4
E	PERFORMING NONDESTRUCTIVE INSPECTION (NDI) ACTIVITIES	5	3	7	8
F	PERFORMING CORE AUTOMATED MAINTENANCE SYSTEMS (CAMS) ACTIVITIES	6	5	9	7
G	PERFORMING PREINSPECTION OR GENERAL NONDESTRUCTIVE INSPECTION (NDI) ACTIVITIES	13	15	11	8
H	PERFORMING BOND OR COMPOSITE TESTING ACTIVITIES	3	7	2	3
I	PERFORMING LIQUID PENETRANT INSPECTIONS	11	10	7	6
J	PERFORMING RADIOGRAPHIC INSPECTIONS	14	10	12	10
K	PERFORMING ULTRASONIC INSPECTIONS	8	10	4	6
L	PERFORMING MAGNETIC PARTICLE INSPECTIONS	12	12	9	8
M	PERFORMING EDDY CURRENT INSPECTIONS	8	7	7	5
N	PERFORMING JOINT OIL ANALYSIS PROGRAM (JOAP) ACTIVITIES	12	16	15	11
O	PERFORMING MOBILITY ACTIVITIES	2	2	2	4
P	PERFORMING CROSS-UTILIZATION TRAINING (CUT) TASKS	*	*	*	*

* Denotes less than 1 percent

TABLE 3 (CONTINUED)

AVERAGE PERCENT TIME SPENT ON DUTIES BY CAREER LADDER JOBS

DUTIES		RADIOGRAPHIC INSPECTION (ST76)	SUPERVISOR/ ANALYST (ST51)	APPRENTICE (ST25)	SUPERVISOR (STG19)
A	ORGANIZING AND PLANNING	3	3	1	15
B	DIRECTING AND IMPLEMENTING	5	8	1	23
C	INSPECTING AND EVALUATING	3	5	*	17
D	TRAINING	2	4	1	7
E	PERFORMING NONDESTRUCTIVE INSPECTION (NDI) ACTIVITIES	5	4	6	10
F	PERFORMING CORE AUTOMATED MAINTENANCE SYSTEMS (CAMS) ACTIVITIES	10	12	5	9
G	PERFORMING PREINSPECTION OR GENERAL NONDESTRUCTIVE INSPECTION (NDI) ACTIVITIES	11	10	19	3
H	PERFORMING BOND OR COMPOSITE TESTING ACTIVITIES	1	4	4	*
I	PERFORMING LIQUID PENETRANT INSPECTIONS	7	6	18	1
J	PERFORMING RADIOGRAPHIC INSPECTIONS	16	15	10	4
K	PERFORMING ULTRASONIC INSPECTIONS	4	5	6	1
L	PERFORMING MAGNETIC PARTICLE INSPECTIONS	7	9	10	1
M	PERFORMING EDDY CURRENT INSPECTIONS	4	8	2	1
N	PERFORMING JOINT OIL ANALYSIS PROGRAM (JOAP) ACTIVITIES	17	5	15	3
O	PERFORMING MOBILITY ACTIVITIES	2	2	2	3
P	PERFORMING CROSS-UTILIZATION TRAINING (CUT) TASKS	*	*	*	*

* Denotes less than 1 percent

TABLE 4

SELECTED BACKGROUND DATA FOR AFSC 2A7X2 CAREER LADDER JOBS

	CORE GENERAL INSPECTION (ST103)	JOAP SPECIALIST (ST062)	JOAP TECHNICIAN (GP037)	SHOP/ASST NCOIC (ST083)
NUMBER IN GROUP	239	16	21	75
PERCENT OF SAMPLE	52%	3%	4%	16%
DAFSC DISTRIBUTION:				
2A732	16%	31%	0%	0%
2A752	67%	56%	52%	24%
2A772	17%	13%	48%	76%
PAYGRADE DISTRIBUTION:				
E-1 to E-3	29%	56%	5%	0%
E-4	41%	19%	33%	11%
E-5	25%	25%	33%	20%
E-6	5%	0%	24%	40%
E-7	0%	0%	5%	29%
E-8	0%	0%	0%	0%
AVERAGE NUMBER OF TASKS PERFORMED	162	96	128	249
AVERAGE MONTHS TAFMS	72	49	118	166
PERCENT IN FIRST ENLISTMENT	45%	70%	19%	4%
PERCENT SUPERVISING	35%	19%	62%	96%

TABLE 4 (CONTINUED)

SELECTED BACKGROUND DATA FOR AFSC 2A7X2 CAREER LADDER JOBS

	RADIOGRAPHIC INSPECTION (ST076)	SUPERVISOR/ ANALYST ST051)	APPRENTICE ST025)	SUPERVISOR (ST019)
NUMBER IN GROUP	8	11	12	33
PERCENT OF SAMPLE	2%	2%	2%	7%
DAFSC DISTRIBUTION:				
2A732	0%	0%	58%	0%
2A752	63%	45%	34%	3%
2A772	37%	55%	8%	97%
PAYGRADE DISTRIBUTION:				
E-1 to E-3	0%	0%	83%	0%
E-4	12%	37%	17%	0%
E-5	75%	18%	0%	3%
E-6	13%	36%	0%	46%
E-7	0%	9%	0%	48%
E-8	0%	0%	0%	3%
AVERAGE NUMBER OF TASKS PERFORMED	124	113	66	107
AVERAGE MONTHS TAFMS	156	126	19	202
PERCENT IN FIRST ENLISTMENT	0%	9%	91%	0%
PERCENT SUPERVISING	100%	82%	8%	97%

TABLE 5

SPECIALTY JOB COMPARISONS BETWEEN CURRENT AND 1987 SURVEYS

CURRENT SURVEY (N=463)	PERCENT OF SAMPLE	458X1 1987 SURVEY (N=690)	PERCENT OF SAMPLE
CORE GENERAL INSPECTION JOB	52	GENERAL INSPECTION PERSONNEL	68
JOAP SPECIALIST JOB JOAP TECHNICIAN JOB	3 4	JOINT OIL ANALYSIS PROGRAM (JOAP) PERSONNEL	3
SHOP/ASSISTANT NCOIC JOB	16	SHOP/LABORATORY NCOICs	3
RADIOGRAPHIC INSPECTION JOB	2	NOT IDENTIFIED	
SUPERVISOR/ANALYST	2	NOT IDENTIFIED	
APPRENTICE JOB	2	APPRENTICE INSPECTION PERSONNEL	4
SUPERVISOR JOB	7	SUPERVISORY NONDESTRUCTIVE INSPECTION (NDI) TECHNICIAN	13
NOT IDENTIFIED		TRAINING PERSONNEL	3

A. Core General Inspection Job (STG103, N=239). The largest group of respondents in the General Inspection cluster (52 percent of the sample) work in this job. Table 3 shows 94 percent of their job time involves general nondestructive inspection activities, while the remainder is spent on directing, organizing, inspecting, and training activities. Members perform an average of 162 tasks, which is the second highest average number of tasks of all the jobs in the specialty. Representative tasks performed include:

clean NDI equipment
determine if materials are ferrous or nonferrous
interpret penetrant indications
locate information by reference to technical data, such as specific inspection methods or cleaning requirements
identify penetrant indications
inspect parts using solvent removable penetrant process (Method D)

The following representative task modules show that, in addition to performing general nondestructive inspection tasks, members of this job spend a great deal of job time working on CAMS, radiographic inspection, and oil analysis.

TM	TITLE	TASKS	PERCENT TIME SPENT
01	CORE GENERAL INSPECTION	74	44
04	CAMS	7	4
02	RADIOGRAPHIC INSPECTION	28	13
03	OIL ANALYSIS	23	11
05	DATA FILE MAINTENANCE	4	2

Forty-five percent of Core General Inspection personnel are in their first enlistment, and 67 percent hold the 5-skill level. Other background data can be found in Table 4. A large percentage of members performing this job are assigned to Air Combat Command (ACC).

B. JOAP Specialist Job (STG62, N=16). Like Core General Inspection incumbents, members of this job perform general nondestructive inspection work, but are distinguished by time spent performing JOAP tasks. JOAP Specialist incumbents perform a relatively small number of tasks compared to the rest of the career field (average of 96 tasks) and are more focused. The tasks which distinguish this job deal with composite testing, JOAP, and preinspection/general NDI activities. The following are representative tasks which distinguish this job:

calibrate bond testing equipment to known standards
perform coin-tap or tap hammer tests
perform ultrasonic bond testing on composite structures using pulse-echo method
prepare transit JOAP records
perform JOAP trend analysis
prepare JOAP samples for atomic emission spectrometers

The representative task modules indicate that, in addition to JOAP and core general inspection tasks, members of this job also spend time testing composite structures, performing eddy current phase analysis, and working with the core automated maintenance system (CAMS).

TM	TITLE	TASKS	PERCENT TIME SPENT
12	COMPOSITES TESTING	6	4
01	CORE GENERAL INSPECTION	74	46
03	OIL ANALYSIS (JOAP)	23	14
04	CAMS	7	4
07	EDDY CURRENT PHASE ANALYSIS	4	2

The members performing the JOAP Specialist job average 49 months TAFMS, suggesting a lower experience level overall. Fifty-six percent of JOAP Specialists hold the 5-skill level, while 31 percent hold the 3-skill level. Only 19 percent supervise, while 70 percent are in their first enlistment. The high percent of incumbents in their first enlistment, plus the relatively low number of tasks performed, plus the moderately low TAFMS, skill level, and percent supervising, all suggest this is an entry-level job.

C. JOAP Technician Job (GP37, N=21). The members of this job perform many of the same tasks as the JOAP Specialists, but are distinguished by the time they spend performing many administrative and supervisory tasks. This job includes emphasis on CAMS, JOAP, general nondestructive inspection work, and supervisory tasks. The supervisory responsibilities of the Technician are shown by the high percent members supervising (62 percent). The following are representative tasks performed by the JOAP Technician:

access CAMS menus and screens
open or close CAMS
clear or closeout completed discrepancies in CAMS
supervise NDI Specialists in AFSC 2A752
conduct performance feedback (PFW) evaluation sessions
write EPRs

The following task modules show the focus on CAMS, JOAP, and core general inspection tasks.

TM	TITLE	TASKS	PERCENT TIME SPENT
04	CAMS	7	6
03	OIL ANALYSIS (JOAP)	23	14
01	CORE GENERAL INSPECTION	74	34
15	SUPERVISE AND TRAIN AFSC 45851	12	5
05	DATA FILE MAINTENANCE	4	2

While JOAP Technicians average 118 months TAFMS, 19 percent are in their first enlistment. Fifty-two percent of the members hold the 5-skill level, while 48 percent hold the 7-skill level. JOAP Technicians perform an average of 128 tasks, 24 percent more tasks than JOAP Specialists perform. These are more experienced members of the specialty, and are responsible for performing more NDI tasks as well as for supervising and training junior personnel.

D. Shop/Assistant NCOIC Job (STG83, N=75). The role of this job is to provide experienced, on-the-floor leadership to run an effective NDI shop. Shop/Assistant NCOICs perform an average of 249 tasks, by far the highest average number of tasks performed by members of any job in the entire NDI career ladder. The tasks on which they spend the greatest amount of time are related to training AFSC 2A752 personnel, JOAP activities, radiographic inspections, and preinspection/general NDI activities. The following tasks distinguish the Shop/Assistant NCOIC job from other jobs:

supervise NDI Specialists in AFSC 2A752
counsel personnel on personal or military-related matters
plan or schedule work assignments
perform CAMS inquiries for scheduled aircraft or support equipment discrepancies
prepare oil analysis records for transient aircraft
determine if materials are ferrous or nonferrous

The representative task modules show the focus on training and supervising AFSC 2A752 personnel, as well as CAMS and core general inspection.

TM	TITLE	TASKS	PERCENT TIME SPENT
15	SUPERVISE AND TRAIN AFSC 2A751	12	6
04	CAMS	7	3
03	OIL ANALYSIS (JOAP)	23	9
01	CORE GENERAL INSPECTION	74	27
05	DATA FILE MAINTENANCE	4	1

Shop/Assistant NCOICs average 166 months TAFMS. Only four percent are in their first enlistment, indicating an experienced group. Seventy-six percent of the members hold the 7-skill level. Ninety-six percent of the Shop/Assistant NCOICs report supervising other AFSC 2A7X2 members.

E. Radiographic Inspection Job (STG76, N=8). Members of this job perform radiographic inspection duties, training, and supervision. Personnel in the Radiographic Inspection job perform an average of 124 tasks, which includes interpreting radiographic indications, developing radiographic film, writing EPRs, and operating CAMS. The high emphasis on radiographic inspection tasks distinguish this job from other NDI jobs. The following are representative tasks performed by members with the Radiographic Inspection job:

identify radiographic indications
interpret radiographic indications
measure radiation exposure levels using radiation survey meters
assemble or disassemble radiographic exposure equipment
supervise NDI Specialists in AFSC 2A752
supervise Apprentice NDI personnel in AFSC 2A732

The representative task modules show that Radiographic Inspection personnel spend most of their job time on CAMS, oil analysis, radiographic inspection, and supervising, and training.

TM	TITLE	TASKS	PERCENT TIME SPENT
04	CAMS	7	5
03	OIL ANALYSIS (JOAP)	23	15
02	RADIOGRAPHIC INSPECTION	28	15
15	SUPERVISE AND TRAIN AFSC 2A752	12	6
16	SUPERVISE AND TRAIN AFSC 2A732	4	2

Radiographic Inspection personnel average 156 months TAFMS, with 63 percent holding a 5-skill level. There are no incumbents in their first enlistment, and all of the members report having supervisory responsibility.

F. Supervisor/Analyst Job (STG51, N=11). Personnel in this job perform a mixture of technical and supervisory tasks. Members train and supervise personnel and perform eddy current phase analysis, radiographic inspections, and CAMS activities. The differences between the Supervisor/Analyst and the Shop/Assistant NCOIC jobs are the number of tasks performed and technical tasks performed. Supervisor/Analysts perform an average of 113 tasks, while Shop/Assistant NCOIC personnel perform an average of 249 tasks. Supervisor/Analysts also have more emphasis on CAMS and eddy current analysis. The following are representative tasks performed by Supervisor/Analysts:

supervise Apprentice NDI personnel in AFSC 2A732
supervise NDI Specialists in AFSC 2A752
interpret eddy current phase analysis indications
identify eddy current impedance analysis equipment using standards and technical data
clear or closeout completed discrepancies in CAMS
access CAMS menus and screens

The representative task modules show members of this job perform CAMS, supervision and eddy current analysis.

TM	TITLE	TASKS	PERCENT TIME SPENT
04	CAMS	7	7
16	SUPERVISE AND TRAIN AFSC 2A732	4	3
15	SUPERVISE AND TRAIN AFSC 2A752	12	8
07	EDDY CURRENT PHASE ANALYSIS	4	3
02	RADIOGRAPHIC INSPECTION	28	14

Supervisor/Analysts average 126 months TAFMS. Eighty-two percent of the members report they have supervisory responsibilities. Fifty-five percent hold the 7-skill level, while 45 percent hold the 5-skill level. Only nine percent are in their first enlistment.

II. APPRENTICE JOB (STG25, N=12). Entry-level members spend the majority of their time learning the tasks of the NDI career ladder by OJT. They perform an average of only 66 tasks, fewer than members of any job in the career ladder perform. Members are involved in preinspection/general NDI activities, various types of inspections, some JOAP activities, and CAMS. The following are representative tasks performed by members with the Apprentice Job:

interpret penetrant indications
inspect parts using solvent removable penetrant process (Method C)
clean NDI equipment
determine if materials are ferrous or nonferrous
locate information by reference to technical data, such as specific inspection methods or cleaning requirements
postclean materials prior to inspections

The associated task modules show members of this job spend most of their time performing JOAP activities, core general inspection tasks, and CAMS tasks.

TM	TITLE	TASKS	PERCENT TIME SPENT
03	OIL ANALYSIS	23	16
01	CORE GENERAL INSPECTION	74	50
04	CAMS	7	4
05	DATA FILE MAINTENANCE	4	2
12	COMPOSITE TESTING	6	2

Members in the Apprentice job average only 19 months TAFMS, which shows they are the newest members of the career ladder. Ninety-one percent of the incumbents report they are in their first enlistment. Fifty-eight percent hold the 3-skill level, while another 34 percent hold the 5-skill level. The low TAFMS, number of tasks performed, absence of supervisory responsibilities, and the preponderance of time spent in general NDI tasks distinguish this job from all other 2A7X2 jobs.

III. SUPERVISOR JOB (STG19, N=33). The role of the Supervisor job is to provide experienced leadership to the 2A7X2 career ladder. The incumbents in this job are the most senior members of the 2A7X2 career ladder. What distinguishes this job from the other supervisory jobs is the time spent on supervisory, directing, and planning tasks versus technical NDI tasks. The focus of the job is clearly shown by the following tasks:

conduct self-inspections
interpret policies, directives, or procedures for subordinates
resolve technical problems for subordinates
supervise NDI Technicians in AFSC 2A752
counsel personnel on personal or military-related matters
write EPRs

The following representative task modules also show the focus on supervisory responsibilities.

TM	TITLE	TASKS	PERCENT TIME SPENT
15	SUPERVISE AND TRAIN AFSC 2A752	12	5
19	SUPERVISORY TASKS	4	4
21	RADIATION SAFETY	7	6
22	PROGRAM PLANNING AND DIRECTING	4	3
17	CHEMICAL/PRECIOUS METALS CONTROL	5	4

Members with the Supervisor job average 202 months TAFMS. Ninety-seven percent hold the 7-skill level.

Comparison of Current Job Descriptions to Previous Study

The results of the specialty job analysis were compared to the previous OSR, dated January 1987. Table 5 compares the jobs identified in the current study to those in the 1987 OSR. Six of the eight current jobs were matched to similar jobs identified in 1987. Only the Radiographic Inspection and the Supervisor/Analyst jobs did not directly match jobs in the last report. The only job from the 1987 OSR not identified in the current study was that of the Training Personnel.

The Nondestructive Inspection career ladder is characterized by a fairly homogenous job structure, with over half of the members in both studies found performing general inspection functions. Several smaller, somewhat more specialized jobs were also identified in both studies. Members in these smaller jobs perform a number of common general inspection tasks, but are distinguished by the time they spend on job-specific tasks. The remainder of the specialty members are in the Apprentice and Supervisor jobs.

ANALYSIS OF DAFSC GROUPS

An analysis of DAFSC groups, in conjunction with the analysis of the career ladder structure, is an important part of each occupational survey. This analysis identifies differences in tasks performed at various skill levels. This information may be used to evaluate how well career ladder documents, such as AFMAN 36-2108 *Specialty Descriptions* and the STS, reflect what career ladder personnel are actually doing in the field.

The distribution of skill-level groups across career ladder jobs is displayed in Table 6, while Table 7 displays percent time spent on each duty by members of the skill-level groups. Members of the specialty display a typical pattern of career ladder progression, with 3-skill level personnel spending most of their time on technical tasks and 5-skill level personnel performing a mixture of technical and training and administrative tasks. Seven-skill level personnel perform fewer technical tasks and spend more duty time on administrative, supervisory, and managerial tasks.

Skill-Level Descriptions

DAFSC 2A732. The 61 airmen in the 3-skill level group, representing 13 percent of the survey sample, perform an average of 121 tasks. As shown in Table 6, 62 percent of these airmen are in the Core General Inspection job. They spend approximately 68 percent of their job time on preinspection, JOAP, magnetic particle inspection, liquid penetrant inspection, and radiographic inspection activities. Examples of tasks likely to be performed by 3-skill level personnel include: cleaning NDI equipment, identifying penetrant indications, precleaning materials prior to inspections, and interpreting penetrant indications. Table 8 displays selected representative tasks performed by 3-skill level members.

DAFSC 2A752. The 243 airmen in the 5-skill level group represent 52 percent of the total survey sample and perform an average of 147 tasks. Table 6 shows that 66 percent are in the Core General Inspection job. This table also reflects an increase in the number of personnel found in the JOAP Technician, Shop/Assistant NCOIC, Radiographic Inspection, and Supervisor/Analyst jobs. Table 7 shows that 5-skill level personnel spend 13 percent of their time performing general nondestructive inspection activities and an additional 48 percent of their time on performing liquid penetrant, radiographic, magnetic particle inspections and JOAP activities. In addition to these technical duties, they spend approximately 14 percent of their time performing administrative and supervisory related tasks. Representative tasks performed by 5-skill level incumbents are listed in Table 9.

TABLE 6

DISTRIBUTION OF SKILL-LEVEL MEMBERS
ACROSS CAREER LADDER JOBS
(PERCENT)

JOB	AFSC 2A732 (N=61)	AFSC 2A752 (N=243)	AFSC 2A772 (N=159)
CORE GENERAL INSPECTION JOB	62	66	26
JOAP SPECIALIST JOB	8	4	1
JOAP TECHNICIAN JOB	0	5	6
SHOP/ASSISTANT NCOIC JOB	0	7	36
RADIOGRAPHIC INSPECTION JOB	0	2	2
SUPERVISOR/ANALYST JOB	0	2	4
APPRENTICE JOB	11	2	1
SUPERVISOR	0	*	20
NOT GROUPED	19	12	4

* Denotes less than 1 percent

TABLE 7

TIME SPENT ON DUTIES BY MEMBERS OF SKILL-LEVEL GROUPS
(RELATIVE PERCENT OF JOB TIME)

DUTIES		AFSC 2A732 (N=61)	AFSC 2A752 (N=243)	AFSC 2A772 (N=159)
A	ORGANIZING AND PLANNING	*	2	7
B	DIRECTING AND IMPLEMENTING	1	3	11
C	INSPECTING AND EVALUATING	*	2	8
D	TRAINING	*	1	4
E	PERFORMING NONDESTRUCTIVE INSPECTION (NDI) ADMINISTRATIVE AND SUPPLY ACTIVITIES	3	6	7
F	PERFORMING CORE AUTOMATED MAINTENANCE SYSTEM (CAMS) ACTIVITIES	6	6	7
G	PERFORMING PREINSPECTION OR GENERAL NONDESTRUCTIVE INSPECTION (NDI) ACTIVITIES	15	13	8
H	PERFORMING BOND OR COMPOSITE TESTING ACTIVITIES	5	3	2
I	PERFORMING LIQUID PENETRANT INSPECTIONS	13	10	6
J	PERFORMING RADIOGRAPHIC INSPECTIONS	12	13	10
K	PERFORMING ULTRASONIC INSPECTIONS	7	7	5
L	PERFORMING MAGNETIC PARTICLE INSPECTIONS	15	12	7
M	PERFORMING EDDY CURRENT INSPECTIONS	7	7	5
N	PERFORMING JOINT OIL ANALYSIS PROGRAM (JOAP) ACTIVITIES	13	13	9
O	PERFORMING MOBILITY ACTIVITIES	1	2	3
P	PERFORMING CROSS-UTILIZATION TRAINING (CUT) TASKS	*	*	*

* Denotes less than 1 percent

NOTE: Columns may not add to 100 percent due to rounding

TABLE 8

REPRESENTATIVE TASKS PERFORMED BY
AFSC 2A732 PERSONNEL

TASKS		PERCENT MEMBERS PERFORMING (N=61)
G148	CLEAN NDI EQUIPMENT	97
I192	IDENTIFY PENETRANT INDICATIONS	97
G165	PRECLEAN MATERIALS PRIOR TO INSPECTIONS	92
G149	DETERMINE IF MATERIALS ARE FERROUS OR NONFERROUS	95
I197	INTERPRET PENETRANT INDICATIONS	93
G164	POSTCLEAN INSPECTION MATERIALS	92
I193	INSPECT PARTS USING HYDROPHILIC METHOD (METHOD D)	90
G157	LOCATE INFORMATION BY REFERENCE TO TECHNICAL DATA, SUCH AS SPECIFIC INSPECTION METHODS OR CLEANING REQUIREMENTS	90
L269	DEMAGNETIZE MATERIALS	89
I195	INSPECT PARTS USING SOLVENT REMOVABLE PENETRANT PROCESS (METHOD C)	87
L285	PERFORM WET CONTINUOUS MAGNETIC PARTICLE INSPECTIONS USING STATIONARY EQUIPMENT	85
L271	IDENTIFY MAGNETIC PARTICLE INDICATIONS	85
I207	SELECT PENETRANT DWELL TIMES BY REFERENCE TO TECHNICAL DATA	84
N345	SHARPEN OR POLISH ROD ELECTRODES	82
I208	SELECT PENETRANT METHODS	82
G171	VERIFY CLEANLINESS OF MATERIALS FOR INSPECTIONS	82
L287	PERFORM WET RESIDUAL MAGNETIC PARTICLE INSPECTIONS USING STATIONARY EQUIPMENT	80
F120	ACCESS CAMS MENUS AND SCREENS	79
L291	SELECT TYPES OF MAGNETISM TO USE FOR INSPECTIONS	79
F134	OPEN OR CLOSE CAMS	74
N318	ENTER OIL ANALYSIS RESULTS INTO DATA BASES AUTOMATICALLY	74
I201	PERFORM PROCESS CONTROL OF DEVELOPERS	74
J222	DEVELOP RADIOGRAPHIC FILM AUTOMATICALLY	72
G162	PERFORM PROCESS CONTROL OF BLACK LIGHTS	66
F126	CLEAR OR CLOSE OUT COMPLETED DISCREPANCIES IN CAMS	66

TABLE 9

REPRESENTATIVE TASKS PERFORMED BY
AFSC 2A752 PERSONNEL

TASKS		PERCENT MEMBERS PERFORMING (N=243)
G148	CLEAN NDI EQUIPMENT	96
I192	IDENTIFY PENETRANT INDICATIONS	93
G157	LOCATE INFORMATION BY REFERENCE TO TECHNICAL DATA, SUCH AS SPECIFIC INSPECTION METHODS OR CLEANING REQUIREMENTS	91
I197	INTERPRET PENETRANT INDICATIONS	91
L269	DEMAGNETIZE MATERIALS	91
I195	INSPECT PARTS USING SOLVENT REMOVABLE PENETRANT PROCESS (METHOD C)	90
F120	ACCESS CAMS MENUS AND SCREENS	89
G171	VERIFY CLEANLINESS OF MATERIALS FOR INSPECTIONS	89
L271	IDENTIFY MAGNETIC PARTICLE INDICATIONS	89
G164	POSTCLEAN INSPECTION MATERIALS	89
G149	DETERMINE IF MATERIALS ARE FERROUS OR NONFERROUS	88
G153	IDENTIFY DISCREPANCIES USING OPTICAL AIDS	88
I208	SELECT PENETRANT METHODS	87
L285	PERFORM WET CONTINUOUS MAGNETIC PARTICLE INSPECTIONS USING STATIONARY EQUIPMENT	86
M309	SELECT EDDY CURRENT PROBES AND EQUIPMENT	86
M295	CHECK EDDY CURRENT EQUIPMENT SENSITIVITIES USING STANDARDS	86
L272	INTERPRET MAGNETIC PARTICLE INDICATIONS	85
G165	PRECLEAN MATERIALS PRIOR TO INSPECTIONS	84
G162	PERFORM PROCESS CONTROL OF BLACK LIGHTS	84
I193	INSPECT PARTS USING HYDROPHILIC METHOD (METHOD D)	82
F134	OPEN OR CLOSE CAMS	81
J209	ASSEMBLE OR DISASSEMBLE RADIOGRAPHIC EXPOSURE EQUIPMENT	78
F126	CLEAR OR CLOSE OUT COMPLETED DISCREPANCIES IN CAMS	77
N345	SHARPEN OR POLISH ROD ELECTRODES	76
N326	PERFORM JOAP TREND ANALYSIS	72

Table 10 gives examples of tasks that best differentiate the 5-skill level personnel from their junior counterparts. As shown in the table, most tasks reflect higher percentages of 5-skill level personnel performing supervisory types of tasks. This is in line with trends noted in Table 6.

DAFSC 2A772. Seven-skill level personnel represent 34 percent of the survey sample and perform an average of 175 tasks. A shift in job utilization clearly occurs as personnel move from the 5-skill level to the 7-level. This shift can be clearly seen in Table 6. Personnel working in the Core General Inspection job drops dramatically (from 66 percent at the 5-skill level to 26 percent at the 7-level), while there is a major increase in the percentage of 7-skill levels working in the Shop/Assistant NCOIC (36 percent) and Supervisor (20 percent) jobs. Thirty-seven percent of their relative job time is spent on tasks in supervisory, training, and administrative duties, compared to 14 percent at the 5-skill level. However, despite this increase in supervisory responsibilities, the major percentage of their time is still involved with technical duties (see Table 7). Table 11 lists representative tasks performed by these incumbents.

Tasks that best distinguish 7-skill level personnel from their junior counterparts are presented in Table 12. As expected, the difference is a much greater emphasis on managerial functions.

Summary

Members within the AFSC 2A7X2 career ladder progress typically through the career ladder. Three-skill level personnel spend their job time performing only technical tasks. Five-skill level members spend more than 83 percent of their duty time performing technical functions, but have some limited supervisory responsibilities. Seven-skill level personnel perform a mixture of technical and supervisory and managerial tasks.

ANALYSIS OF AFMAN 36-2108 *SPECIALTY DESCRIPTION*

Survey data were compared to the AFMAN 36-2108 *Specialty Description* for Nondestructive Inspection, dated 31 October 1994, effective 31 October 1993. The description is generally accurate, depicting the highly technical aspects of the job.

TABLE 10

TASKS WHICH BEST DIFFERENTIATE BETWEEN
AFSC 2A732 AND AFSC 2A752 PERSONNEL
(PERCENT MEMBERS PERFORMING)

TASKS		2A732 (N=61)	2A752 (N=243)	DIFFERENCE
D72	CONDUCT OJT	3	50	-47
B43	RESOLVE TECHNICAL PROBLEMS FOR SUBORDINATES	3	38	-35
E107	MAINTAIN RADIOGRAPHIC FILM LIBRARIES	23	58	-35
B47	SUPERVISE NDI SPECIALISTS IN AFSC 45851	3	34	-31
B26	COUNSEL PERSONNEL ON PERSONAL OR MILITARY-RELATED MATTERS	3	32	-29
C49	CONDUCT PERFORMANCE FEEDBACK (PFW) EVALUATION SESSIONS	2	30	-28
E110	MAINTAIN TECHNICAL LIBRARY FILES, SUCH AS TECHNICAL ORDERS (TOs) OR AIR FORCE REGULATIONS (AFRs)	15	42	-27
A9	ESTABLISH WORK METHODS, PRODUCTION CONTROLS, OR INSPECTION PROCEDURES	18	45	-27
B44	SUPERVISE APPRENTICE NONDESTRUCTIVE INSPECTION (NDI) PERSONNEL IN AIR FORCE SPECIALTY CODE (AFSC) 45831	8	35	-27
B27	DEVELOP OR IMPROVE WORK METHODS OR PROCEDURES	18	44	-26
C69	WRITE EPRs	2	28	-26
E100	MAINTAIN EQUIPMENT WITHIN AFOSH STANDARDS, SUCH AS EYEWASH CHECKS AND CONTINUITY CHECKS	38	63	-25
A10	ESTABLISH WORK ORDER PRIORITIES	13	38	-25

TABLE 11

REPRESENTATIVE TASKS PERFORMED BY
AFSC 2A772 PERSONNEL

TASKS		PERCENT MEMBERS PERFORMING (N=159)
B43	RESOLVE TECHNICAL PROBLEMS FOR SUBORDINATES	86
C49	CONDUCT PERFORMANCE FEEDBACK (PFW) EVALUATION SESSIONS	86
B47	SUPERVISE NDI SPECIALISTS IN AFSC 45851	85
C69	WRITE EPRs	85
F120	ACCESS CAMS MENUS AND SCREENS	84
I197	INTERPRET PENETRANT INDICATIONS	84
B41	INVENTORY EQUIPMENT, TOOLS, OR SUPPLIES	83
G157	LOCATE INFORMATION BY REFERENCE TO TECHNICAL DATA, SUCH AS SPECIFIC INSPECTION METHODS OR CLEANING REQUIREMENTS	83
G171	VERIFY CLEANLINESS OF MATERIALS FOR INSPECTIONS	82
F134	OPEN OR CLOSE CAMS	82
B26	COUNSEL PERSONNEL ON PERSONAL OR MILITARY-RELATED MATTERS	80
A10	ESTABLISH WORK ORDER PRIORITIES	79
A13	PLAN OR SCHEDULE WORK ASSIGNMENTS	79
B27	DEVELOP OR IMPROVE WORK METHODS OR PROCEDURES	79
I193	INSPECT PARTS USING HYDROPHILIC METHOD (METHOD D)	78
C50	CONDUCT SELF-INSPECTIONS	74
C55	EVALUATE INSPECTION TECHNIQUES OF SUBORDINATES	73
B40	INTERPRET POLICIES, DIRECTIVES, OR PROCEDURES FOR SUBORDINATES	71
C59	EVALUATE NEW INSPECTION TECHNIQUE PROCEDURES	70
A8	ESTABLISH PERFORMANCE STANDARDS FOR SUBORDINATES	68
C61	EVALUATE PROCESS CONTROL PROGRAMS	66
C57	EVALUATE MAINTENANCE OR USE OF WORKSPACE, EQUIPMENT, OR SUPPLIES	59
B48	SUPERVISE NDI TECHNICIANS IN AFSC 45871	53
A7	ESTABLISH ORGANIZATIONAL POLICIES, OFFICE INSTRUCTIONS (OIs), OR STANDARD OPERATING PROCEDURES (SOPs)	53
A12	PLAN OR PREPARE BRIEFINGS	50

TABLE 12

TASKS WHICH BEST DIFFERENTIATE BETWEEN
AFSC 2A752 AND AFSC 2A772 PERSONNEL
(PERCENT MEMBERS PERFORMING)

TASKS		2A752 (N=243)	2A772 (N=159)	DIFFERENCE
B25	COORDINATE PERIODIC PHYSICAL EXAMINATIONS WITH MEDICAL FACILITIES	4	33	-29
C52	EVALUATE BUDGETING REQUIREMENTS	3	31	-28
D355	DETERMINE PERSONNEL OR EQUIPMENT REQUIREMENTS FOR DEPLOYMENTS	9	36	-27
F128	COORDINATE CAMS PROBLEMS WITH DATA BASE MANAGERS	30	57	-27
C65	EVALUATE SUGGESTIONS	6	33	-27
C67	INVESTIGATE ACCIDENTS OR INCIDENTS	2	28	-26
B29	DIRECT DEVELOPMENT OR MAINTENANCE OF STATUS BOARDS, GRAPHS, OR CHARTS	16	42	-26
C70	WRITE STAFF STUDIES, SURVEYS, OR SPECIAL REPORTS, OTHER THAN TRAINING REPORTS	3	29	-26
B28	DIRECT COMPUTER SECURITY PROGRAMS	9	35	-26
E104	MAINTAIN MATERIAL CONTROL FUNCTIONS, SUCH AS BENCHSTOCK OR SHOP STOCK	30	56	-26
A5	DRAFT BUDGET REQUIREMENTS	5	31	-26

TRAINING ANALYSIS

Occupational survey data are sources of information that can be used to assist in the development of relevant training programs for entry-level personnel. Factors used to evaluate entry-level Nondestructive Inspection training include jobs performed by first-enlistment (1-48 months TAFMS) personnel, overall distribution of first-enlistment personnel across career ladder jobs, percent first-enlistment members performing specific tasks or using specific equipment items, ratings of how much training emphasis (TE) tasks should receive in formal training, and ratings of relative task difficulty (TD).

First-Enlistment Personnel

The survey data captured the responses of 163 first-enlistment personnel, representing 35 percent of the survey sample. As displayed in Table 13, the majority of their duty time is devoted to technical or administrative task performance, the majority of which is contained in five duties: Performing preinspection or general nondestructive inspection (NDI) activities (14 percent); Performing JOAP activities (14 percent); Performing magnetic particle inspections (13 percent); Performing radiographic inspections (13 percent); and Performing liquid penetrant inspections (12 percent). Table 14 displays the more common tasks performed by first-enlistment personnel. Tables 15 through 18 display the equipment used by first-enlistment personnel. Types of equipment covered in these tables include x-ray, penetrant, magnetic particle, ultrasound, eddy current, bond testing, optical, and oil analysis equipment.

In terms of job utilization, first-enlistment personnel were present in all of the jobs identified in the **SPECIALTY JOBS** section of this report, except the Shop/Assistant NCOIC and Supervisor jobs. Figure 2 shows that 65 percent of all first-term members are in the Core General Inspection job.

TABLE 13

RELATIVE PERCENT OF TIME SPENT ACROSS DUTIES BY
FIRST ENLISTMENT (1-48 MONTHS TAFMS) AFSC 2A7X2 PERSONNEL**

DUTIES		AVERAGE PERCENT TIME SPENT
A	ORGANIZING AND PLANNING	*
B	DIRECTING AND IMPLEMENTING	1
C	INSPECTING AND EVALUATING	*
D	TRAINING	*
E	PERFORMING NONDESTRUCTIVE INSPECTION (NDI) ADMINISTRATIVE AND SUPPLY ACTIVITIES	4
F	PERFORMING CORE AUTOMATED MAINTENANCE SYSTEM (CAMS) ACTIVITIES	6
G	PERFORMING PREINSPECTION OR GENERAL NONDESTRUCTIVE INSPECTION (NDI) ACTIVITIES	14
H	PERFORMING BOND OR COMPOSITE TESTING ACTIVITIES	4
I	PERFORMING LIQUID PENETRANT INSPECTIONS	12
J	PERFORMING RADIOGRAPHIC INSPECTIONS	13
K	PERFORMING ULTRASONIC INSPECTIONS	7
L	PERFORMING MAGNETIC PARTICLE INSPECTIONS	13
M	PERFORMING EDDY CURRENT INSPECTIONS	7
N	PERFORMING JOINT OIL ANALYSIS PROGRAM (JOAP) ACTIVITIES	14
O	PERFORMING MOBILITY ACTIVITIES	2
P	PERFORMING CROSS-UTILIZATION TRAINING (CUT) TASKS	*

* Denotes less than 1 percent
** Columns may not add to 100 percent due to rounding

TABLE 14

REPRESENTATIVE TASKS PERFORMED BY
FIRST-ENLISTMENT AFSC 2A7X2 PERSONNEL

TASKS		PERCENT MEMBERS PERFORMING (N=163)
G148	CLEAN NDI EQUIPMENT	98
I197	INTERPRET PENETRANT INDICATIONS	94
G149	DETERMINE IF MATERIALS ARE FERROUS OR NONFERROUS	94
I192	IDENTIFY PENETRANT INDICATIONS	93
G164	POSTCLEAN INSPECTION MATERIALS	91
G165	PRECLEAN MATERIALS PRIOR TO INSPECTIONS	88
G157	LOCATE INFORMATION BY REFERENCE TO TECHNICAL DATA, SUCH AS SPECIFIC INSPECTION METHODS OR CLEANING REQUIREMENTS	88
I195	INSPECT PARTS USING SOLVENT REMOVABLE PENETRANT PROCESS	87
I193	INSPECT PARTS USING HYDROPHILIC METHODS (METHOD D) (METHOD C)	85
L269	DEMAGNETIZE MATERIALS	88
G162	PERFORM PROCESS CONTROL OF BLACK LIGHTS	87
L271	IDENTIFY MAGNETIC PARTICLE INDICATIONS	86
G153	IDENTIFY DISCREPANCIES USING OPTICAL AIDS	86
G171	VERIFY CLEANLINESS OF MATERIALS FOR INSPECTIONS	85
L285	PERFORM WET CONTINUOUS MAGNETIC PARTICLE INSPECTIONS USING STATIONARY EQUIPMENT	84
I208	SELECT PENETRANT METHODS	83
L291	SELECT TYPES OF MAGNETISM TO USE FOR INSPECTIONS	82
F120	ACCESS CAMS MENUS AND SCREENS	82
N345	SHARPEN OR POLISH ROD ELECTRODES	80
L272	INTERPRET MAGNETIC PARTICLE INDICATIONS	80
F134	OPEN OR CLOSE CAMS	76
N344	REVIEW DD FORMS 2026 (OIL ANALYSIS REQUEST) FOR ACCURACY	74
J222	DEVELOP RADIOGRAPHIC FILM AUTOMATICALLY	73
F125	CLEAR OR CLOSE OUT COMPLETED DISCREPANCIES IN CAMS	72
N318	ENTER OIL ANALYSIS RESULTS INTO DATA BASES AUTOMATICALLY	71

TABLE 15

X-RAY EQUIPMENT USED BY 10 PERCENT OR MORE
OF FIRST-ENLISTMENT PERSONNEL
(1-48 MONTHS TAFMS)

EQUIPMENT USED	PERCENT MEMBERS RESPONDING (N=163)
X-RAY	
X-RAY WARNING LIGHTS	84
FILM VIEWERS	80
SM 400 SURVEY METERS	80
DOSIMETERS, DIGITAL ALARM	76
SPERRY KV160 UNITS	63
PORTABLE X-RAY INTERLOCKS	61
DENSITOMETERS	58
MAGNAFLUX KV150 UNITS	48
CANISTER SILVER RECOVERY UNITS	42
KODAK AUTOMATIC PROCESSING UNITS	35
SPERRY KV300 UNITS	34
DOSIMETERS, OTHER THAN DIGITAL ALARM	31
MANUAL FILM PROCESSORS	29
ELECTROLYTIC SILVER RECOVERY UNITS	27
MANUAL FILM DRYERS	26
WATER CHILLERS	25
RIDGE CORP TUBESTANDS	21
LITTON AUTOMATIC PROCESSING UNITS	20
PORTABLE GENERATORS	18
KODAK P1 PAPER PROCESSORS	12

TABLE 16

PENETRANT AND MAGNETIC PARTICLE EQUIPMENT USED
BY 10 PERCENT OR MORE OF FIRST-ENLISTMENT PERSONNEL
(1-48 MONTHS TAFMS)

EQUIPMENT USED	PERCENT MEMBERS RESPONDING (N=163)
PENETRANT	
BLACK LIGHTS	99
PORTABLE PENETRANT KITS	98
BLACK LIGHT INTENSITY METERS	91
PROCESS CONTROL KITS	91
HYDROPHILIC MATERIALS	82
MA2 PENETRANT LINES	55
SUPER BLACK LIGHTS	31
LIPOPHILIC MATERIALS	18
MA1 PENETRANT LINES	12
MA3 PENETRANT LINES	11
MAGNETIC PARTICLE	
FIELD INDICATORS	99
BLACK LIGHTS	98
DA200 PARKER PROBES	98
KETOS RINGS	93
CENTRIFUGE TUBES	90
DEAD WEIGHTS	89
QUICK-BREAK TESTERS	82
SHUNT METERS	74
MAGNAFLUX STATIONARY UNITS	50
HORSESHOE MAGNETS	28
GRANIER STATIONARY UNITS	26
MAGNAFLUX KHO7s	18
URESCO STATIONARY UNITS	15
BARDALL STATIONARY MAGNETIC UNITS	12

TABLE 17

ULTRASOUND AND EDDY CURRENT EQUIPMENT USED
BY 10 PERCENT OR MORE OF FIRST-ENLISTMENT PERSONNEL
(1-48 MONTHS TAFMS)

EQUIPMENT USED	PERCENT MEMBERS RESPONDING (N=163)
ULTRASOUND	
SONICS MARK 4s	88
SONICS MARK 1s	35
NDT 131s	28
LEAK DETECTOR 235s	20
NDT 127s	17
EPOCHS PANAMETRICS	15
DELCON 118 LEAK DETECTORS	13
USL-48 KRAUTKRAMER BRANSONS	10
ROTOSCANS	10
EDDY CURRENT	
HOCKING UHBs	96
ED 520s	65
MIZ 20s	25
NDT 19s	24
GRANDIA 92836s	17
GULTON FD 100s	15
FM 150s	15
FM 120s	10

TABLE 18

BOND TESTING, OPTICAL, AND OIL ANALYSIS EQUIPMENT USED
BY 10 PERCENT OR MORE OF FIRST-ENLISTMENT PERSONNEL
(1-48 MONTHS TAFMS)

EQUIPMENT USED	PERCENT MEMBERS RESPONDING (N=163)
BOND TESTING	
US 5200	28
210 BOND TESTERS	23
MARK 2B HARMONIC BOND TESTERS	17
S2B SONDICATORS	12
OIL ANALYSIS	
BAIRD ATOMIC AE35U-3S	72
SPECTROIL JRs	37
OPTICAL INSPECTION	
STEREO-ZOOM MICROSCOPES	92
MAGNIFIER/COMPARATORS	62
BORESCOPES	50

AFSC 2A7X2 FIRST-ENLISTMENT JOB STRUCTURE

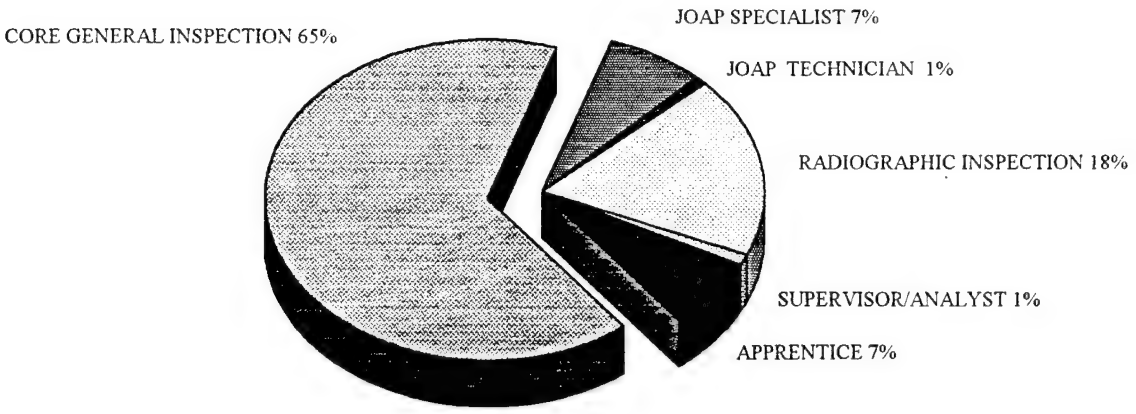

FIGURE 2

TE and TD Data

TE and TD data are secondary factors that can help technical training personnel decide which entry-level training tasks to emphasize. These ratings, based on the judgments of senior career ladder NCOs at operational units, provide training personnel with a rank-ordering of those tasks considered important for first-term airmen training (TE) and a measure of the difficulty of those tasks (TD). When combined with data on the percentages of first-enlistment personnel performing tasks, comparisons can be made to determine if training adjustments are necessary. For example, tasks receiving high ratings on both task factors (TE and TD) accompanied by moderate to high percentages of performance may warrant resident training. Those tasks receiving high task factor ratings but low percentages of performance may be more appropriately planned for OJT. Low task factor ratings may highlight tasks that should be omitted from entry-level training; however, this decision must be weighed against percentages of personnel performing tasks, command concerns, and criticality of tasks.

To assist training development personnel, AFOMS developed a computer program that uses these task factors and the percentage of first-enlistment personnel performing tasks to produce Automated Training Indicators (ATI). ATI corresponds to training decisions listed and defined in the Training Decision Logic Table found in Attachment 1, AETCR 52-22. ATI allows training developers to quickly focus attention on those tasks that are most likely to qualify for ABR course consideration.

Various lists of tasks, accompanied by TE and TD ratings and, where appropriate, ATI information, are contained in the Training Extract package and should be reviewed in detail by technical school personnel. (For a more detailed explanation of TE and TD ratings, see Task Factor Administration in the **SURVEY METHODOLOGY** section of this report.)

Tasks having the highest TE ratings are listed in Table 19. Included for each task are the percentage of first-job and first-enlistment personnel performing and TD rating. As illustrated in the table, most of these tasks relate to performing and interpreting NDI tests and also identifying test indications. Furthermore, many of them are performed by a high percentage and have a high TD rating.

Table 20 lists the tasks having the highest TD ratings. The percentage of first-enlistment, 5-, and 7-skill level personnel performing, and TE ratings are also included. These tasks are primarily administrative and supervisory in nature. The majority of tasks exhibit low TE and are performed by relatively low percentages of 5- and 7-skill level members.

Various lists of tasks, accompanied by TE and TD ratings, are contained in the Training Extract package and should be reviewed in detail by technical school personnel. For a more detailed explanation of TE and TD ratings, see Task Factor Administration in the **SURVEY METHODOLOGY** section of this report.

Specialty Training Standard (STS)

Nondestructive Inspection personnel from the Randolph AFB NDI shop matched JI tasks to sections and subsections of the Nondestructive Inspection STS. A listing of the STS was then produced, showing tasks matched, percent members performing the tasks, and TE and TD ratings for each task. These listings are included in the Training Extract. Any element with matched tasks performed by 20 percent or more first-job, first-enlistment, 5-, or 7-skill level members is considered to be supported and should be part of the STS.

AFSC 2A7X2 STS

Paragraphs 1 through 8 deal with general topics of safety, supervision, training, technical publications, maintenance management, and inspection. Paragraphs 9 through 20 cover the common aspects of the career ladder. These paragraphs include over 200 individual entries, the majority of which have tasks matched.

The AFSC 2A7X2 STS is generally supported by the survey data. Only two items are not supported by survey data. These items deal with preparing statements of charges (paragraph 5c) and atomic absorption (paragraph 20b(2)). While tasks matched to these items have low TE

TABLE 19

TASKS WITH HIGHEST TRAINING EMPHASIS RATINGS

TASKS		TNG EMPH	PERCENT MEMBERS PERFORMING 1ST JOB	PERCENT MEMBERS PERFORMING 1ST ENL	TSK DIFF
N326	PERFORM JOAP TREND ANALYSIS	6.72	68	67	5.99
I197	INTERPRET PENETRANT INDICATIONS	6.47	84	91	5.59
L272	INTERPRET MAGNETIC PARTICLE INDICATIONS	6.36	77	73	5.67
G157	LOCATE INFORMATION BY REFERENCE TO TECHNICAL DATA, SUCH AS SPECIFIC INSPECTION METHODS OR CLEANING REQUIREMENTS	6.30	83	87	4.63
K252	IDENTIFY ULTRASONIC FLAW DETECTION INDICATIONS	6.28	69	65	6.46
J225	INTERPRET RADIOGRAPHIC INDICATIONS	6.23	70	63	7.08
K266	PERFORM PROCESS CONTROL OF ULTRASONIC UNITS, SUCH AS LINEARITY CHECKS	6.23	68	59	6.01
J224	IDENTIFY RADIOGRAPHIC IDENTIFICATION	6.21	71	61	6.31
L271	IDENTIFY MAGNETIC PARTICLE INDICATIONS	6.19	76	81	5.24
L285	PERFORM WET CONTINUOUS MAGNETIC PARTICLE INSPECTIONS USING STATIONARY EQUIPMENT	6.15	73	81	5.00
L283	PERFORM PROCESS CONTROL OF STATIONARY MAGNETIC PARTICLE EQUIPMENT, SUCH AS QUICK-BREAK CHECKS OR SHUNT METER CHECKS	6.13	62	72	5.03
N324	PERFORM COMPLETE CALIBRATION VERIFICATION CHECKS ON ATOMIC EMISSION SPECTROMETERS	6.11	56	52	6.66
K265	PERFORM PROCESS CONTROL OF ULTRASONIC TRANSDUCERS, SUCH AS ANGLES OF INCIDENCE OR SKEW ANGLES	6.11	65	57	6.02
I192	IDENTIFY PENETRANT INDICATIONS	6.11	79	92	5.25
I193	INSPECT PARTS USING HYDROPHILLIC METHOD (METHOD D)	6.09	78	83	5.09
L282	PERFORM PROCESS CONTROL OF STATIONARY MAGNETIC PARTICLE BATHS	6.09	58	77	4.87

TABLE 19 (CONTINUED)

TASKS WITH HIGHEST TRAINING EMPHASIS RATINGS

TASKS		TNG EMPH	PERCENT MEMBERS PERFORMING 1ST JOB	PERCENT MEMBERS PERFORMING 1ST ENL	TSK DIFF
K254	INSPECT PARTS WITH LONGITUDINAL WAVES USING PULSE ECHO METHOD	6.09	65	61	5.77
K247	CALIBRATE ULTRASONIC FLAW DETECTION EQUIPMENT	6.00	74	71	5.48
K258	INTERPRET ULTRASONIC FLAW DETECTION INDICATIONS	5.96	74	59	6.93
H295	CHECK EDDY CURRENT EQUIPMENT SENSITIVITIES USING STANDARDS	5.94	78	76	4.83
I195	INSPECT PARTS USING SOLVENT REMOVABLE PENETRANT PROCESS (METHOD C)	5.91	80	85	4.97
J226	MEASURE RADIATION EXPOSURE LEVELS USING RADIATION SURVEY METERS	5.91	66	64	4.38
I204	PERFORM PROCESS CONTROL OF PENETRANTS	5.91	62	77	5.19
I201	PERFORM PROCESS CONTROL OF DEVELOPERS	5.89	62	81	4.84
L291	SELECT TYPES OF MAGNETISM TO USE FOR INSPECTIONS	5.85	73	73	4.58
M293	CALIBRATE EDDY CURRENT IMPEDANCE ANALYSIS EQUIPMENT USING STANDARDS AND TECHNICAL DATA	5.85	73	71	5.40

TABLE 20

TASKS WITH HIGHEST TASK DIFFICULTY RATINGS

TASKS		TSK DIFF	PERCENT MEMBERS PERFORMING 1ST JOB	1ST ENL	AFSC 2A752	AFSC 2A772	TNG EMPH
A6	ESTABLISH JOINT OIL ANALYSIS PROGRAM (JOAP) PROGRAMS	7.56	48	1	28	5	1.85
C68	WRITE CIVILIAN PERFORMANCE RATINGS OR SUPERVISORY APPRAISALS	7.51	13	1	6	2	.70
C69	WRITE EPRs	7.15	85	0	44	2	2.09
B45	SUPERVISE CIVILIANS	7.10	23	0	13	0	1.06
J225	INTERPRET RADIOGRAPHIC INDICATIONS	7.08	70	63	73	59	6.23
N312	ASSEMBLE OR DISASSEMBLE ATOMIC ABSORPTION SPECTROMETERS	7.05	19	5	18	8	2.51
A7	ESTABLISH ORGANIZATIONAL POLICIES, OFFICE INSTRUCTIONS (OIs), OR STANDARD OPERATING PROCEDURES (SOPs)	7.03	53	1	25	3	1.43
H174	DESIGN BONDED STRUCTURE STANDARDS, SUCH AS SKIN-TO-CORE OR METAL-TO-METAL	7.01	13	7	10	11	2.00
H176	DEVELOP OR IMPROVE COMPOSITE TESTING INSPECTION TECHNIQUES	7.01	16	12	12	18	1.98
A5	DRAFT BUDGET REQUIREMENTS	6.96	31	1	14	3	.85
K258	INTERPRET ULTRASONIC FLAW DETECTION INDICATIONS	6.93	74	59	74	57	5.96
E116	PREPARE OVEREXPOSURE REPORTS	6.90	21	0	10	0	2.00
B32	DIRECT JOAP PROGRAMS	6.90	52	1	30	5	1.85
K249	DEVELOP OR IMPROVE BOND TESTING INSPECTION TECHNIQUES	6.90	43	13	33	21	4.28
C70	WRITE STAFF STUDIES, SURVEYS, OR SPECIAL REPORTS, OTHER THAN TRAINING REPORTS	6.88	29	1	12	2	.26
H175	DEVELOP OR IMPROVE BOND TESTING INSPECTION TECHNIQUES	6.86	21	11	14	16	1.98
C67	INVESTIGATE ACCIDENTS OR INCIDENTS	6.67	28	1	11	2	.43

TABLE 20 (CONTINUED)

TASKS WITH HIGHEST TASK DIFFICULTY RATINGS

TASKS		TSK DIFF	PERCENT MEMBERS PERFORMING				TNG EMPH
			1ST JOB	1ST ENL	AFSC 2A752	AFSC 2A772	
N324	PERFORM COMPLETE CALIBRATION VERIFICATION CHECKS ON ATOMIC EMISSION SPECTROMETERS	6.66	56	52	60	52	6.11
C52	EVALUATE BUDGETING REQUIREMENTS	6.66	31	0	12	0	.66
D79	DEVELOP CURRICULUM MATERIALS, OTHER THAN RESIDENT COURSE	6.65	6	1	4	2	.21
D80	DEVELOP RESIDENT COURSE CURRICULUM MATERIALS	6.64	4	1	2	2	.19
E117	PREPARE REPORTS OF SURVEY	6.60	22	0	10	0	.70
N325	PERFORM DIAGNOSTIC CHECKS OF SPECTROMETERS, OTHER THAN REPEATABILITY AND ACCURACY CALCULATIONS	6.59	43	32	44	34	4.79
B46	SUPERVISE MILITARY PERSONNEL WITH AFSCs OTHER THAN 458X1	6.58	13	1	7	2	.60
N320	PERFORM ACCURACY AND REPEATABILITY CALCULATIONS ON ATOMIC ABSORPTION SPECTROMETERS	6.57	13	13	14	15	2.30

ratings and low percent members performing, they do have high TD ratings (see Table 21). Career field managers and training personnel should review these items closely to ensure they are appropriate for inclusion in future editions of the STS.

Many technical tasks performed by 20 percent or more of at least one of the criterion groups mentioned above are not matched to STS elements (see Table 22). Training personnel should review the complete list of unmatched tasks presented in the Training Extract to ensure the STS is complete.

Plan of Instruction (POI)

Job inventory tasks were also matched by Randolph AFB NDI personnel to related learning objectives in POI C3ABR45831, dated 29 April 1992. The match was validated by the Air Force NDI Training Manager. The method employed was similar to that of the STS analysis. The data examined included percent members performing data by first-job (1-24 months TAFMS) and first-enlistment (1-48 months TAFMS) personnel, as well as TE, TD, and ATI ratings.

POI blocks, units of instruction, and learning objectives were compared to the standards set forth in Attachment 1, AETCR 52-22, dated 17 February 1989 (30 percent or more of the criterion members performing tasks). By this guidance, learning objectives that do not meet these criteria should be considered for elimination from the formal course unless justified on some other acceptable basis.

Review of the tasks matched to the POI reveals that, out of the over 150 matched learning objectives, only four are not supported by OSR data. These four objectives are listed in Table 23. All are in Block VII of the course. On the whole, these objectives exhibit low percent members performing and low ATI, but have above average TD. Training personnel should closely review these areas for appropriateness in keeping these areas in the basic course.

Many technical tasks performed by more than 30 percent of AFSC 2A7X2 are not matched to POI objectives (see Table 24). Some of these tasks exhibit high ATI ratings. Training personnel should review the list of unmatched tasks presented in the Training Extract to ensure the POI is complete.

TABLE 21

AFSC 2A7X2 STS ELEMENTS NOT SUPPORTED BY SURVEY DATA

TASKS		TE	PERCENT PERFORMING 1ST JOB	1ST ENL	5-LVL	7-LVL	TD
0032	5c. PREPARE STATEMENT OF CHARGES						
E118	PREPARE STATEMENTS OF CHARGES	.47	0	1	1	13	6.36
0193	20b(2). ATOMIC ABSORPTION (AA)						
N312	ASSEMBLE OR DISASSEMBLE ATOMIC ABSORPTION SPECTROMETERS	2.51	5	13	19	19	7.05
N320	PERFORM ACCURACY AND REPEATABILITY CALCULATIONS ON ATOMIC ABSORPTION SPECTROMETERS	2.30	13	14	15	13	6.57
N322	PERFORM ACCURACY AND REPEATABILITY VERIFICATION CHECKS ON ATOMIC ABSORPTION SPECTROMETERS	2.40	11	13	14	9	6.53
N335	PREPARE JOAP SAMPLES FOR ATOMIC ABSORPTION SPECTROMETERS	2.47	11	14	17	12	5.56
N338	PREPARE STANDARDS FOR ATOMIC ABSORPTION SPECTROMETERS	2.47	9	14	15	11	5.40
N340	PROCESS OIL SAMPLES USING ATOMIC ABSORPTION SPECTROMETERS, EXCEPT PWMAs	1.89	5	8	12	9	5.49
N346	STANDARDIZE ATOMIC ABSORPTION SPECTROMETERS, EXCEPT PWMAs	2.72	3	7	10	6	6.11

* For an STS Element to be considered unsupported by the survey data, all skill levels and TAFMS groups represented must have percent members performing less than 20 percent

TABLE 22

EXAMPLES OF TECHNICAL TASKS PERFORMED BY 20 PERCENT OR MORE AFSC 2A7X2 GROUP MEMBERS AND NOT REFERENCED TO THE STS

TASKS		PERCENT MEMBERS PERFORMING				
		1ST ENL (N=163)	DAFSC 2A752 (N=243)	DAFSC 2A772 (N=159)	TNG EMPH*	TASK DIFF**
G156	INTERPRET DISCREPANCIES USING OPTICAL AIDS	83	86	77	5.11	4.45
G157	LOCATE INFORMATION BY REFERENCE TO TECHNICAL DATA, SUCH AS SPECIFIC INSPECTION METHODS OR CLEANING REQUIREMENTS	88	91	83	6.30	4.63
H186	PERFORM PREOPERATIONAL INSPECTIONS OF BOND TESTING EQUIPMENT	34	34	54	4.04	4.17
N331	PERFORM PERIODIC OPERATIONAL INSPECTIONS OF ATOMIC EMISSION SPECTROMETERS	52	57	54	5.15	5.27
N337	PREPARE OIL ANALYSIS RECORDS FOR TRANSIENT AIRCRAFT	64	67	64	5.19	3.82
O357	DON OR DOFF CHEMICAL WARFARE PERSONAL PROTECTIVE CLOTHING	29	39	42	2.28	4.13
O359	FIRE WEAPONS FOR PROFICIENCY	24	35	39	1.68	4.08
O362	MAINTAIN IMMUNIZATION RECORDS	42	47	47	1.66	2.78
O364	PACK OR UNPACK INDIVIDUAL MOBILITY EQUIPMENT FOR DEPLOYMENTS	29	35	33	1.45	3.79
O377	PREPARE PERSONAL CLOTHING AND EQUIPMENT FOR DEPLOYMENTS	33	38	33	1.47	3.53
P389	INSPECT RAMP AREAS FOR FOREIGN OBJECT DAMAGE (FOD) MATTER	22	26	27	1.57	2.82

* Training Emphasis has an average of 3.10 and a standard deviation of 1.91 (High TE=5.01)

** Average TD rating is 5.00, and the standard deviation is 1.00

TABLE 23

AFSC 2A7X2 POI OBJECTIVES NOT SUPPORTED BY SURVEY DATA

TASKS		TE	ATI	PERCENT MEMBERS PERFORMING 1ST JOB	PERCENT MEMBERS PERFORMING 1ST ENL	TD
0081	V 1c. GIVEN TEN INCOMPLETE STATEMENTS PERTAINING TO THE PRINCIPLES OF SILVER RECOVERY AND A LIST OF RESPONSES, SELECT THE RESPONSE THAT BEST COMPLETES EACH STATEMENT.					
J213	COLLECT SILVER USING CANISTER METHOD	4.02	3	25	29	3.96
J214	COLLECT SILVER USING CHEMICAL PRECIPITATION METHOD	2.85	2	5	10	4.55
J215	COLLECT SILVER USING ELECTROLYTIC METHOD	3.66	7	9	14	4.27
J217	DETERMINE EFFICIENCY OF SILVER RECOVERY SYSTEMS	3.74	7	17	20	4.76
0112	VII 2c. GIVEN A SELECTED BONDED STRUCTURE, APPLICABLE STANDARDS, EDDY-SONIC EQUIPMENT, AND NECESSARY TECHNICAL DATA, INSPECT THE STRUCTURE USING THE EDDY-SONIC METHOD.					
H183	PERFORM EDDY-SONIC TESTING ON METALLIC STRUCTURES	3.87	7	29	26	5.71
0114	VII 3. FUNDAMENTALS OF COMPOSITE INSPECTIONS					
H173	CALIBRATE COMPOSITE TESTING EQUIPMENT TO KNOWN STANDARDS	4.53	7	29	28	5.50
H176	DEVELOP OR IMPROVE COMPOSITE TESTING INSPECTION TECHNIQUES	1.98	2	12	11	7.01

* For a POI objective to be considered unsupported by the survey data, both first-job and first-enlistment categories surveyed must have percent members performing less than 30 percent

TABLE 23 (CONTINUED)

AFSC 2A7X2 POI OBJECTIVES NOT SUPPORTED BY SURVEY DATA

TASKS		TE	ATI	PERCENT MEMBERS PERFORMING 1ST JOB	PERCENT MEMBERS PERFORMING 1ST ENL	TD
0115	VII 3a. GIVEN TEN INCOMPLETE STATEMENTS PERTAINING TO THE FUNDAMENTALS OF COMPOSITE STRUCTURES AND A LIST OF RESPONSES, SELECT THE RESPONSE THAT BEST COMPLETES EACH STATEMENT.					
H173	CALIBRATE COMPOSITE TESTING EQUIPMENT TO KNOWN STANDARDS	4.53	7	29	28	5.50

* For a POI objective to be considered unsupported by the survey data, both first-job and first-enlistment categories surveyed must have percent members performing less than 30 percent

TABLE 24

EXAMPLES OF TECHNICAL TASKS PERFORMED BY 30 PERCENT OR MORE AFSC 2A7X2 GROUP MEMBERS AND NOT REFERENCED TO THE POI

TASKS		TE	ATI	1ST JOB	1ST ENL	TD
E107	MAINTAIN RADIOGRAPHIC FILM LIBRARIES	3.30	15	28	43	4.26
G159	PERFORM OPERATOR MAINTENANCE ON OPTICAL AID EQUIPMENT	4.32	8	67	69	3.04
L277	PERFORM OPERATOR MAINTENANCE ON MAGNETIC PARTICLE EQUIPMENT	5.17	18	69	72	4.79
N318	ENTER OIL ANALYSIS RESULTS INTO DATA BASES AUTOMATICALLY	4.32	17	72	71	4.28
N319	ENTER OIL ANALYSIS RESULTS INTO DATA BASES MANUALLY	5.00	17	69	68	4.73
N321	PERFORM ACCURACY AND REPEATABILITY CALCULATIONS ON ATOMIC EMISSION SPECTROMETERS	4.94	17	45	57	6.39
N323	PERFORM ACCURACY AND REPEATABILITY VERIFICATION CHECKS ON ATOMIC EMISSION SPECTROMETERS	5.11	18	48	58	6.45
N325	REPEATABILITY AND ACCURACY CALCULATIONS	4.79	15	32	42	6.59
N326	PERFORM JOAP TREND ANALYSIS	6.72	18	67	71	5.99
N328	PERFORM OPERATOR MAINTENANCE ON ATOMIC EMISSION SPECTROMETERS	5.34	18	48	58	5.41
N331	PERFORM PERIODIC OPERATIONAL INSPECTIONS OF ATOMIC EMISSION SPECTROMETERS	5.15	18	43	52	5.27
N333	PERFORM PREOPERATIONAL INSPECTIONS AND DAILY STANDARDIZATION OF JOAP EQUIPMENT	5.60	18	61	65	5.47
N334	PREPARE CORRELATION RESULTS FORM LETTERS	3.94	15	20	33	4.49
N336	PREPARE JOAP SAMPLES FOR ATOMIC EMISSION SPECTROMETERS	5.34	13	57	66	3.64
N337	PREPARE OIL ANALYSIS RECORDS FOR TRANSIENT AIRCRAFT	5.19	13	59	64	3.82
N339	PREPARE STANDARDS FOR ATOMIC EMISSION SPECTROMETERS	4.91	8	49	58	3.19
N341	PROCESS OIL SAMPLES USING ATOMIC EMISSION SPECTROMETERS	5.66	18	68	71	4.26
N343	PRODUCE BACK-UP DATA FOR JOAP INSPECTIONS	3.21	15	25	35	4.39
N345	SHARPEN OR POLISH ROD ELECTRODES	5.28	13	79	80	2.43
N347	STANDARDIZE ATOMIC EMISSION SPECTROMETERS	5.62	18	49	57	6.07
N349	TRANSFER OR RECEIVE JOAP DATA TO HOST COMPUTERS	3.51	15	32	35	4.74
N350	UPDATE AIRCRAFT JOAP RECORDS IN DATA BASES	3.91	17	47	55	4.92

JOB SATISFACTION ANALYSIS

An examination of job satisfaction indicators can give career ladder managers a better understanding of factors that may affect job performance of career ladder airmen. Therefore, the survey booklet included questions covering job interest, perceived utilization of talents and training, sense of accomplishment from work, and reenlistment intentions. The responses of the current survey sample were then analyzed by making several comparisons: (1) among AFSC 2A7X2 TAFMS groups and a comparative sample of personnel from other Mission Equipment Maintenance career ladders surveyed in 1993 (AFSCs 2E2X1, 2A1X2, 2A6X3, 2E7X1, 2E1X3, 2A6X5, 2A1X4, 2A1X3, 2A4X2, 2A7X1, 2M0X2A, 2M0X1B, and 2A7X3), (2) between current and previous survey TAFMS groups, and (3) across specialty groups identified in the **SPECIALTY JOBS** section of this report.

Table 25 compares first-enlistment (1-48 months TAFMS), second-enlistment (49-96 months TAFMS), and career (97+ months TAFMS) group data to corresponding enlistment groups from other Mission Equipment Maintenance AFSCs surveyed in 1993. These data give a relative measure of how the job satisfaction of AFSC 2A7X2 personnel compares with similar Air Force specialties. Nondestructive Inspection personnel reported generally higher job satisfaction than members of the comparative sample. Although Nondestructive Inspection first-enlistment incumbents expressed less interest in their jobs and did have a high a sense of accomplishment as did members of the comparative sample, they did feel their talents and training were being well used. Second-enlistment personnel had higher overall satisfaction that the comparative sample. The responses of the career group were also higher than those of their counterparts. The area of perceived use of training was an area of difference between the two groups. Ninety-five percent of the Nondestructive Inspection respondents indicated a positive regard towards the training program, with 80 percent of the comparative sample responding positively.

An indication of changes in job satisfaction perceptions within the career ladder is provided in Table 26, which presents TAFMS group data for 1993 respondents and data from the last OSR. Generally, perceptions associated with job satisfaction have improved for all TAFMS groups. Members in the first-enlistment group report higher job interest, and perceived use of training is higher across all TAFMS groups. Sense of accomplishment is lower in both the first-enlistment and career groups.

Table 27 presents job satisfaction data for the jobs identified in the career ladder structure. An examination of these data can reveal the influences of performing certain jobs on overall job satisfaction. Members in all the jobs generally find their jobs interesting. More than any group, the JOAP Specialist personnel found their job to be extremely interesting. Ninety-four percent of the incumbents responded positively when questioned about expressed job interest. The Radiographic Inspection personnel found their job to be the least interesting, but did not respond in an extremely negative fashion. Seventy-five percent of the incumbents found the job interesting. The personnel in the JOAP Technician job felt their talents were used to the greatest degree out all of the respondents. While the personnel in the JOAP Specialist job were the least convinced that their job utilized their talents, they did feel that the job made good use of their

TABLE 25

COMPARISON OF JOB SATISFACTION INDICATORS FOR AFSC 2A7X2 TAFMS GROUPS IN CURRENT STUDY TO A COMPARATIVE SAMPLE (PERCENT MEMBERS RESPONDING)**

	1-48 MONTHS TAFMS		49-96 MONTHS TAFMS		97+ MONTHS TAFMS	
	2A7X2 (N=163)	MISSION EQUIPMENT MAINTENANCE (N=4,657)	2A7X2 (N=97)	MISSION EQUIPMENT MAINTENANCE (N=3,813)	2A7X2 (N=203)	MISSION EQUIPMENT MAINTENANCE (N=8,073)
EXPRESSED JOB INTEREST						
DULL	4	3	2	10	6	9
SO-SO	13	6	12	15	10	14
INTERESTING	83	91	86	75	84	77
PERCEIVED USE OF TALENTS						
NONE TO VERY LITTLE	23	16	14	19	10	18
FAIRLY WELL TO PERFECT	77	74	85	81	90	82
PERCEIVED USE OF TRAINING						
NONE TO VERY LITTLE	1	14	5	20	7	23
FAIRLY WELL TO PERFECT	98	87	95	80	93	77
SENSE OF ACCOMPLISHMENT FROM JOB						
DISSATISFIED	9	10	11	16	11	17
NEUTRAL	17	11	6	10	11	10
SATISFIED	75	79	82	73	78	73
REENLISTMENT INTENTIONS						
WILL RETIRE	0	0	0	0	24	17
NO OR PROBABLY NO	41	36	19	25	5	9
YES OR PROBABLY YES	58	64	80	75	70	73

* Denotes less than 1 percent

** Columns may not add to 100 percent due to rounding or nonresponse

-- Comparative data are from AFSCs 2EXXX, 2POX1, 2MXXX, 2WXXX, and 2AXXX (1993)

TABLE 26

COMPARISON OF JOB SATISFACTION INDICATORS FOR AFSC 2A7X2
TAFMS GROUPS IN CURRENT STUDY TO PREVIOUS STUDY**
(PERCENT MEMBERS RESPONDING)

	1-48 MOS TAFMS		49-96 MOS TAFMS		97+ MOS TAFMS	
	2A7X2 (N=163)	458X1 (N=294)	2A7X2 (N=97)	458X1 (N=160)	2A7X2 (N=203)	458X1 (N=236)
EXPRESSED JOB INTEREST						
DULL	4	11	2	16	6	11
SO-SO TO INTERESTING	96	89	99	84	94	89
PERCEIVED USE OF TALENTS						
NONE TO VERY LITTLE	23	12	14	18	10	14
FAIRLY WELL TO PERFECT	77	88	85	82	90	86
PERCEIVED USE OF TRAINING						
NONE TO VERY LITTLE	1	8	5	14	7	12
FAIRLY WELL TO PERFECT	98	92	95	86	93	88
SENSE OF ACCOMPLISHMENT FROM JOB						
DISSATISFIED	9	8	11	16	11	13
NEUTRAL	17	9	6	11	11	8
SATISFIED	75	83	82	73	78	79
REENLISTMENT INTENTIONS						
WILL RETIRE	0	*	0	1	24	18
NO OR PROBABLY NO	41	45	19	38	5	12
YES OR PROBABLY YES	58	54	80	61	70	70

* Denotes less than 1 percent

** Data from previous study collected in 1987

-- Columns may not add to 100 percent due to rounding or nonresponse

TABLE 27

JOB SATISFACTION INDICATORS FOR AFSC 2A7X2 JOBS
(PERCENT MEMBERS RESPONDING)

	CORE GENERAL INSPECTION (ST0103)	JOAP SPECIALIST (ST0062)	JOAP TECHNICIAN (GRP0037)	ASSISTANT NCOIC (ST0083)
EXPRESSED JOB INTEREST				
DULL	5	6	0	1
SO-SO	11	0	19	8
INTERESTING	85	94	81	91
PERCEIVED USE OF TALENTS				
NONE TO VERY LITTLE	15	19	24	8
FAIRLY TO VERY WELL	73	75	62	71
EXCELLENT TO PERFECT	12	6	14	21
PERCEIVED USE OF TRAINING				
NONE TO VERY LITTLE	3	0	10	3
FAIRLY TO VERY WELL	73	56	71	73
EXCELLENT TO PERFECT	24	44	19	24
SENSE OF ACCOMPLISHMENT FROM JOB				
DISSATISFIED	13	0	5	13
NEUTRAL	12	19	14	12
SATISFIED	75	81	81	75
REENLISTMENT INTENTIONS				
WILL RETIRE	3	0	5	3
NO OR PROBABLY NO	24	25	24	24
YES OR PROBABLY YES	72	75	71	72

TABLE 27 (CONTINUED)

JOB SATISFACTION INDICATORS FOR AFSC 2A7X2 JOBS
(PERCENT MEMBERS RESPONDING)

	RADIOGRAPHIC INSPECTION (ST0076)	SUPERVISOR/ ANALYST (ST0051)	APPRENTICE (ST0025)	SUPERVISOR (ST0019)
EXPRESSED JOB INTEREST				
DULL	0	0	8	6
SO-SO	25	18	8	12
INTERESTING	75	82	83	82
PERCEIVED USE OF TALENTS				
NONE TO VERY LITTLE	0	9	17	15
FAIRLY TO VERY WELL	88	82	67	61
EXCELLENT TO PERFECT	13	9	17	24
PERCEIVED USE OF TRAINING				
NONE TO VERY LITTLE	0	10	8	18
FAIRLY TO VERY WELL	56	70	58	64
EXCELLENT TO PERFECT	44	20	33	18
SENSE OF ACCOMPLISHMENT FROM JOB				
DISSATISFIED	0	0	8	45
NEUTRAL	19	10	25	6
SATISFIED	81	90	67	48
REENLISTMENT INTENTIONS				
WILL RETIRE	0	10	0	45
NO OR PROBABLY NO	25	30	50	6
YES OR PROBABLY YES	75	60	50	48

training. The respondents in the Radiographic Inspection job also reported the same training satisfaction that the JOAP Specialists did (44 percent responded that their perceived use of training was excellent to perfect - see Table 27). JOAP Technician personnel and Supervisor/Analyst personnel reported the highest perceived levels of accomplishment from the job, while NDI Apprentice personnel reported the lowest - most likely due to the low average number of tasks performed by this group and the nature of the tasks they perform (shop clean up and equipment maintenance, for example). Finally, the JOAP Technician personnel reported themselves to be the most likely to reenlist, while the Supervisor incumbents were the least likely to re-up. Reenlistment intentions are high in all of the other jobs.

IMPLICATIONS

The Nondestructive Inspection (AFSC 2A7X2) career ladder has not changed much since the last survey in 1987. The jobs still involve oil analysis and various types of inspection. The advancement of CAMS technology has added new responsibilities centering on CAMS related functions.

Career ladder progression is typical, with 3- and 5-skill level technicians primarily performing technical functions. The 7-skill level personnel, due to the technical nature of the career ladder, also perform many technical functions, along with a great deal of supervisory duties.

The AFMAN 36-2108 *Specialty Description* is accurate, and the technical training program is sound, as both the STS and POI are supported by survey data. Job satisfaction data shows that members of the career field are generally satisfied with their jobs.

The Air Force is projected to change the location of the technical training course NLT FY 96. Apart from this change, the career ladder should remain stable in the coming years.

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APPENDIX A

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TABLE A1

CORE GENERAL INSPECTION JOB
(STG103)

TASKS		PERCENT MEMBERS PERFORMING
I197	INTERPRET PENETRANT INDICATIONS	99
G148	CLEAN NDI EQUIPMENT	98
G149	DETERMINE IF MATERIALS ARE FERROUS OR NONFERROUS	98
I192	IDENTIFY PENETRANT INDICATIONS	98
G157	LOCATE INFORMATION BY REFERENCE TO TECHNICAL DATA, SUCH AS SPECIFIC INSPECTION METHODS OR CLEANING REQUIREMENTS	97
G164	POSTCLEAN INSPECTION MATERIALS	97
L271	IDENTIFY MAGNETIC PARTICLE INDICATIONS	97
M295	CHECK EDDY CURRENT EQUIPMENT SENSITIVITIES USING STANDARDS	97
L269	DEMAGNETIZE MATERIALS	96
G162	PERFORM PROCESS CONTROL OF BLACK LIGHTS	96
G171	VERIFY CLEANLINESS OF MATERIALS FOR INSPECTIONS	96
I207	SELECT PENETRANT DWELL TIMES BY REFERENCE TO TECHNICAL DATA	96
L291	SELECT TYPES OF MAGNETISM TO USE FOR INSPECTIONS	96
I198	PERFORM OPERATOR MAINTENANCE ON PENETRANT EQUIPMENT	95
M309	SELECT EDDY CURRENT PROBES AND EQUIPMENT	95
I204	PERFORM PROCESS CONTROL OF PENETRANTS	95
I195	INSPECT PARTS USING SOLVENT REMOVABLE PENETRANT PROCESS (METHOD C)	95
L285	PERFORM WET CONTINUOUS MAGNETIC PARTICLE INSPECTIONS USING STATIONARY EQUIPMENT	95
L290	SELECT TYPES OF CURRENTS TO USE FOR DEMAGNETIZATION	95
I208	SELECT PENETRANT METHODS	94
G153	IDENTIFY DISCREPANCIES USING OPTICAL AIDS	94
I199	PERFORM PERIODIC OPERATIONAL INSPECTIONS OF PENETRANT EQUIPMENT	93
G156	INTERPRET DISCREPANCIES USING OPTICAL AIDS	93
I193	INSPECT PARTS USING HYDROPHILIC METHOD (METHOD D)	93
G165	PRECLEAN MATERIALS PRIOR TO INSPECTIONS	93

TABLE A2

JOAP SPECIALIST JOB
(STG62)

TASKS		PERCENT MEMBERS PERFORMING
G157	LOCATE INFORMATION BY REFERENCE TO TECHNICAL DATA, SUCH AS SPECIFIC INSPECTION METHODS OR CLEANING REQUIREMENTS	100
G148	CLEAN NDI EQUIPMENT	100
I192	IDENTIFY PENETRANT INDICATIONS	100
L269	DEMAGNETIZE MATERIALS	100
I197	INTERPRET PENETRANT INDICATIONS	100
I195	INSPECT PARTS USING SOLVENT REMOVABLE PENETRANT PROCESS (METHOD C)	100
G156	INTERPRET DISCREPANCIES USING OPTICAL AIDS	100
G164	POSTCLEAN INSPECTION MATERIALS	94
I193	INSPECT PARTS USING HYDROPHILIC METHOD (METHOD D)	94
L271	IDENTIFY MAGNETIC PARTICLE INDICATIONS	94
K254	INSPECT PARTS WITH LONGITUDINAL WAVES USING PULSE ECHO METHOD	94
K247	CALIBRATE ULTRASONIC FLAW DETECTION EQUIPMENT	94
I208	SELECT PENETRANT METHODS	94
G165	PRECLEAN MATERIALS PRIOR TO INSPECTIONS	88
L285	PERFORM WET CONTINUOUS MAGNETIC PARTICLE INSPECTIONS USING STATIONARY EQUIPMENT	88
N345	SHARPEN OR POLISH ROD ELECTRODES	88
G149	DETERMINE IF MATERIALS ARE FERROUS OR NONFERROUS	88
H172	CALIBRATE BOND TESTING EQUIPMENT TO KNOWN STANDARDS	88
I272	INTERPRET MAGNETIC PARTICLE INDICATIONS	88
N326	PERFORM JOAP TREND ANALYSIS	88
K256	INSPECT PARTS WITH SHEAR WAVES	88
G153	IDENTIFY DISCREPANCIES USING OPTICAL AIDS	88
J222	DEVELOP RADIOGRAPHIC FILM AUTOMATICALLY	81
F120	ACCESS CAMS MENUS AND SCREENS	81
N336	PREPARE JOAP SAMPLES FOR ATOMIC EMISSION SPECTROMETERS	81

TABLE A3

JOAP TECHNICIAN JOB
(GRP37)

TASKS		PERCENT MEMBERS PERFORMING
G149	DETERMINE IF MATERIALS ARE FERROUS OR NONFERROUS	100
F120	ACCESS CAMS MENUS AND SCREENS	100
F134	OPEN OR CLOSE CAMS	100
I195	INSPECT PARTS USING SOLVENT REMOVABLE PENETRANT PROCESS (METHOD C)	95
L269	DEMAGNETIZE MATERIALS	95
L272	INTERPRET MAGNETIC PARTICLE INDICATIONS	95
L271	IDENTIFY MAGNETIC PARTICLE INDICATIONS	95
L269	DEMAGNETIZE MATERIALS	95
G157	LOCATE INFORMATION BY REFERENCE TO TECHNICAL DATA, SUCH AS SPECIFIC INSPECTION METHODS OR CLEANING REQUIREMENTS	91
J225	INTERPRET RADIOGRAPHIC INDICATIONS	90
J224	IDENTIFY RADIOGRAPHIC INDICATIONS	90
J222	DEVELOP RADIOGRAPHIC FILM AUTOMATICALLY	90
I192	IDENTIFY PENETRANT INDICATIONS	90
I197	INTERPRET PENETRANT INDICATIONS	90
M295	CHECK EDDY CURRENT EQUIPMENT SENSITIVITIES USING STANDARDS	90
F126	CLEAR OR CLOSEOUT COMPLETED DISCREPANCIES IN CAMS	86
G171	VERIFY CLEANLINESS OF MATERIALS FOR INSPECTIONS	86
I193	INSPECT PARTS USING HYDROPHILIC METHOD (METHOD D)	81
G170	SELECT GENERAL INSPECTION METHODS TO BE USED WHEN SPECIFIC TECHNICAL GUIDANCE IS NOT AVAILABLE	81
N326	PERFORM JOAP TREND ANALYSIS	81
G148	CLEAN NDI EQUIPMENT	81
G164	POSTCLEAN INSPECTION MATERIALS	81
N316	DETERMINE SOURCES OF WEAR METALS OR CONTAMINATION	81
B41	INVENTORY EQUIPMENT, TOOLS, OR SUPPLIES	81
N336	PREPARE JOAP SAMPLES FOR ATOMIC EMISSION SPECTROMETERS	71
N341	PROCESS OIL SAMPLES USING ATOMIC EMISSION SPECTROMETERS	67

TABLE A4

SHOP/ASSISTANT NCOIC JOB
(STG83)

TASKS		PERCENT MEMBERS PERFORMING
I197	INTERPRET PENETRANT INDICATIONS	100
B41	INVENTORY EQUIPMENT, TOOLS, OR SUPPLIES	99
G157	LOCATE INFORMATION BY REFERENCE TO TECHNICAL DATA, SUCH AS SPECIFIC INSPECTION METHODS OR CLEANING REQUIREMENTS	99
G148	CLEAN NDI EQUIPMENT	99
G149	DETERMINE IF MATERIALS ARE FERROUS OR NONFERROUS	99
B27	DEVELOP OR IMPROVE WORK METHODS OR PROCEDURES	97
B26	COUNSEL PERSONNEL ON PERSONAL OR MILITARY-RELATED MATTERS	97
I195	INSPECT PARTS USING SOLVENT REMOVABLE PENETRANT PROCESS (METHOD C)	97
I192	IDENTIFY PENETRANT INDICATIONS	97
G171	VERIFY CLEANLINESS OF MATERIALS FOR INSPECTIONS	97
K263	PERFORM PERIODIC OPERATIONAL INSPECTIONS OF ULTRASONIC EQUIPMENT	97
I208	SELECT PENETRANT METHODS	97
A10	ESTABLISH WORK ORDER PRIORITIES	96
F120	ACCESS CAMS MENUS AND SCREENS	96
L281	PERFORM PROCESS CONTROL OF PORTABLE MAGNETIC PARTICLE UNITS OR MATERIALS, SUCH AS DEAD WEIGHTS OR SPRAY CANS	96
B43	RESOLVE TECHNICAL PROBLEMS FOR SUBORDINATES	95
F134	OPEN OR CLOSE CAMS	95
I193	INSPECT PARTS USING HYDROPHILIC METHOD (METHOD D)	95
L271	IDENTIFY MAGNETIC PARTICLE INDICATIONS	95
L269	DEMAGNETIZE MATERIALS	95
K258	INTERPRET ULTRASONIC FLAW DETECTION INDICATIONS	95
K252	IDENTIFY ULTRASONIC FLAW DETECTION INDICATIONS	95
L278	PERFORM PERIODIC OPERATIONAL INSPECTIONS OF MAGNETIC PARTICLE EQUIPMENT	95
K262	PERFORM OPERATOR MAINTENANCE ON ULTRASONIC EQUIPMENT	95

TABLE A5

RADIOGRAPHIC INSPECTION JOB
(STG76)

TASKS		PERCENT MEMBERS PERFORMING
F134	OPEN OR CLOSE CAMS	100
N318	ENTER OIL ANALYSIS RESULTS INTO DATA BASES AUTOMATICALLY	100
J224	IDENTIFY RADIOGRAPHIC INDICATIONS	100
N341	PROCESS OIL SAMPLES USING ATOMIC EMISSION SPECTROMETERS	100
G171	VERIFY CLEANLINESS OF MATERIALS FOR INSPECTIONS	100
F126	CLEAR OR CLOSEOUT COMPLETED DISCREPANCIES IN CAMS	100
J241	SELECT FILM TYPES FOR RADIOGRAPHIC INSPECTIONS	100
G157	LOCATE INFORMATION BY REFERENCE TO TECHNICAL DATA, SUCH AS SPECIFIC INSPECTION METHODS OR CLEANING REQUIREMENTS	100
J222	DEVELOP RADIOGRAPHIC FILM AUTOMATICALLY	100
I197	INTERPRET PENETRANT INDICATIONS	100
I192	IDENTIFY PENETRANT INDICATIONS	100
J211	CLEAR BARRIER AREAS OF UNAUTHORIZED PERSONNEL	100
G148	CLEAN NDI EQUIPMENT	100
J220	DETERMINE PLACEMENTS AND POSITIONS OF RADIATION WARNING EQUIPMENT	100
I195	INSPECT PARTS USING SOLVENT REMOVABLE PENETRANT PROCESS (METHOD C)	100
B47	SUPERVISE NDI SPECIALISTS IN AFSC 45851	100
A10	ESTABLISH WORK ORDER PRIORITIES	100
N319	ENTER OIL ANALYSIS RESULTS INTO DATA BASES MANUALLY	100
C69	WRITE EPRs	100
G170	SELECT GENERAL INSPECTION METHODS TO BE USED WHEN SPECIFIC TECHNICAL GUIDANCE IS NOT AVAILABLE	100
N345	SHARPEN OR POLISH ROD ELECTRODES	88
N344	REVIEW DD FORMS 2026 (OIL ANALYSIS REQUEST) FOR ACCURACY	88
F120	ACCESS CAMS MENUS AND SCREENS	88
I193	INSPECT PARTS USING HYDROPHILIC METHOD (METHOD D)	88
J225	INTERPRET RADIOGRAPHIC INDICATIONS	88

TABLE A6

SUPERVISOR/ANALYST JOB
(STG51)

TASKS		PERCENT MEMBERS PERFORMING
F126	CLEAR OR CLOSEOUT COMPLETED DISCREPANCIES IN CAMS	100
F120	ACCESS CAMS MENUS AND SCREENS	100
F134	OPEN OR CLOSE CAMS	100
J222	DEVELOP RADIOGRAPHIC FILM AUTOMATICALLY	100
J225	INTERPRET RADIOGRAPHIC INDICATIONS	100
J224	IDENTIFY RADIOGRAPHIC INDICATIONS	100
L272	INTERPRET MAGNETIC PARTICLE INDICATIONS	100
G149	DETERMINE IF MATERIALS ARE FERROUS OR NONFERROUS	100
M299	INTERPRET EDDY CURRENT IMPEDANCE ANALYSIS METER INDICATIONS	100
J211	CLEAR BARRIER AREAS OF UNAUTHORIZED PERSONNEL	100
L271	IDENTIFY MAGNETIC PARTICLE INDICATIONS	100
M295	CHECK EDDY CURRENT EQUIPMENT SENSITIVITIES USING STANDARDS	100
B41	INVENTORY EQUIPMENT, TOOLS, OR SUPPLIES	91
B47	SUPERVISE NDI SPECIALISTS IN AFSC 45851	91
G157	LOCATE INFORMATION BY REFERENCE TO TECHNICAL DATA, SUCH AS SPECIFIC INSPECTION METHODS OR CLEANING REQUIREMENTS	91
A13	PLAN OR SCHEDULE WORK ASSIGNMENTS	91
I195	INSPECT PARTS USING SOLVENT REMOVABLE PENETRANT PROCESS (METHOD C)	91
I192	IDENTIFY PENETRANT INDICATIONS	91
L285	PERFORM WET CONTINUOUS MAGNETIC PARTICLE INSPECTIONS	91
M293	CALIBRATE EDDY CURRENT IMPEDANCE ANALYSIS EQUIPMENT USING STANDARDS AND TECHNICAL DATA	91
L269	DEMAGNETIZE MATERIALS	91
M297	IDENTIFY EDDY CURRENT ANALYSIS INDICATIONS	91
M298	IDENTIFY EDDY CURRENT PHASE ANALYSIS INDICATIONS	91
M294	CALIBRATE EDDY CURRENT PHASE ANALYSIS EQUIPMENT USING STANDARDS AND TECHNICAL DATA	91

TABLE A7

APPRENTICE JOB
(STG25)

TASKS		PERCENT MEMBERS PERFORMING
I297	INTERPRET PENETRANT INDICATIONS	100
I295	INSPECT PARTS USING SOLVENT REMOVABLE PENETRANT PROCESS (METHOD C)	100
G149	DETERMINE IF MATERIALS ARE FERROUS OR NONFERROUS	100
G148	CLEAN NDI EQUIPMENT	100
I192	IDENTIFY PENETRANT INDICATIONS	92
G165	PRECLEAN MATERIALS PRIOR TO INSPECTIONS	83
G164	POSTCLEAN INSPECTION MATERIALS	83
G157	LOCATE INFORMATION BY REFERENCE TO TECHNICAL DATA, SUCH AS SPECIFIC INSPECTION METHODS OR CLEANING REQUIREMENTS	83
I201	PERFORM PROCESS CONTROL OF PENETRANTS	83
N345	SHARPEN OR POLISH ROD ELECTRODES	75
F120	ACCESS CAMS MENUS AND SCREENS	75
I204	PERFORM PROCESS CONTROL OF PENETRANTS	75
G153	IDENTIFY DISCREPANCIES USING OPTICAL AIDS	75
I208	SELECT PENETRANT METHODS	75
G150	DETERMINE IF NONCONDUCTIVE COATING THICKNESSES WILL AFFECT INSPECTIONS	75
N344	REVIEW DD FORMS 2026 (OIL ANALYSIS REQUEST) FOR ACCURACY	67
I193	INSPECT PARTS USING HYDROPHILIC METHOD (METHOD D)	67
L269	DEMAGNETIZE MATERIALS	67
N341	PROCESS OIL SAMPLES USING ATOMIC EMISSION SPECTROMETERS	67
N326	PERFORM JOAP TREND ANALYSIS	67
G162	PERFORM PROCESS CONTROL OF BLACK LIGHTS	67
I202	PERFORM PROCESS CONTROL OF DRYERS	67
F126	CLEAR OR CLOSEOUT COMPLETED DISCREPANCIES IN CAMS	67
I205	PERFORM PROCESS CONTROL OF REMOVERS OR EMULSIFIERS	67
J209	ASSEMBLE OR DISASSEMBLE RADIOGRAPHIC EXPOSURE EQUIPMENT	58

TABLE A8

SUPERVISOR JOB
(STG19)

TASKS		PERCENT MEMBERS PERFORMING
C49	CONDUCT PERFORMANCE FEEDBACK (PFW) EVALUATION SESSIONS	100
B43	RESOLVE TECHNICAL PROBLEMS FOR SUBORDINATES	97
A18	SCHEDULE PERSONNEL FOR LEAVES, PASSES, OR TEMPORARY DUTY (TDY)	97
B26	COUNSEL PERSONNEL ON PERSONAL OR MILITARY-RELATED MATTERS	94
C69	WRITE EPRs	94
A13	PLAN OR SCHEDULE WORK ORDER PRIORITIES	94
C50	CONDUCT SELF-INSPECTIONS	91
B40	INTERPRET POLICIES, DIRECTIVES, OR PROCEDURES FOR SUBORDINATES	91
A10	ESTABLISH WORK ORDER PRIORITIES	88
A7	ESTABLISH ORGANIZATIONAL POLICIES, OFFICE INSTRUCTIONS (OIs), OR STANDING OPERATING PROCEDURES (SOPs)	88
A8	ESTABLISH PERFORMANCE STANDARDS FOR SUBORDINATES	88
B27	DEVELOP OR IMPROVE WORK METHODS OR PROCEDURES	88
B48	SUPERVISE NDI TECHNICIANS IN AFSC 45871	85
A1	ASSIGN PERSONNEL TO DUTY POSITIONS	85
B47	SUPERVISE NDI SPECIALISTS IN AFSC 45851	85
A9	ESTABLISH WORK METHODS, PRODUCTION CONTROLS, OR INSPECTION PROCEDURES	85
B22	COORDINATE ANNUAL RADIATION SURVEYS WITH BIOENVIRONMENTAL PERSONNEL	85
A2	ASSIGN SPONSORS FOR NEWLY ASSIGNED PERSONNEL	82
F120	ACCESS CAMS MENUS AND SCREENS	82
C62	EVALUATE RADIATION SAFETY PROGRAMS	79
A3	DETERMINE REQUIREMENTS FOR SPACE, PERSONNEL, EQUIPMENT, OR SUPPLIES	76
B41	INVENTORY EQUIPMENT, TOOLS, OR SUPPLIES	73
E95	COMPLETE MISCELLANEOUS SUPPLY FORMS, SUCH AS AF FORMS 2005 (ISSUE/TURN IN REQUEST)	73
C61	EVALUATE PROCESS CONTROL PROGRAMS	73
B31	DIRECT HAZARDOUS OR RECYCLABLE MATERIALS DISPOSAL PROGRAMS	64

APPENDIX B

LISTING OF MODULES AND TASK STATEMENTS

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These Task Modules (TMs) were developed in order to organize and summarize the extensive task information for this specialty. The TMs were derived by statistical clustering of the tasks in terms of which tasks are performed by the same incumbents. For example, if an individual performs one Core General Inspection task, the probability is very high that he or she also will perform other one Core General Inspection tasks. Thus, the group of one Core General Inspection tasks can be considered a "natural group" of associated or related tasks (see TM 0001 below). The statistical clustering generally approximates these "natural groupings."

The title of each TM is our best estimate as to the generic subject of the group of tasks. The TMs are useful for organizing the task data into meaningful units and as a way to concisely summarize the extensive job data. However, TMs are only one way to organize the information. Other strategies may also be valid.

0001 Stage 208: CORE GENERAL INSPECTION

1	G148	Clean NDI equipment
2	G149	Determine if materials are ferrous or nonferrous
3	G150	Determine if nonconductive coating thicknesses will affect inspections
4	G151	Determine material constructions or compositions
5	G152	Determine test standards to be used for inspections
6	G153	Identify discrepancies using optical aids
7	G155	Identify surface conditions of materials, such as smoothness or roughness
8	G156	Interpret discrepancies using optical aids
9	G157	Locate information by reference to technical data, such as specific inspection methods or cleaning requirements
10	G158	Measure thickness of materials or lengths of indications using hand-measuring devices, such as micrometers or rulers
11	G159	Perform operator maintenance on optical aid equipment
12	G160	Perform operator maintenance on vehicles
13	G161	Perform periodic operational inspections of optical aid equipment
14	G162	Perform process control of black lights
15	G163	Perform process control of inspection booths
16	G164	Postclean inspection materials
17	G165	Preclean materials prior to inspections
18	G170	Select general inspection methods to be used when specific technical guidance is not available
19	G171	Verify cleanliness of materials for inspections
20	I191	Establish remover dwell times based upon surface condition of parts or condition of remover
21	I192	Identify penetrant indications
22	I193	Inspect parts using hydrophillic method (Method D)
23	I195	Inspect parts using solvent removable penetrant process (Method C)
24	I197	Interpret penetrant indications
25	I198	Perform operator maintenance on penetrant equipment
26	I199	Perform periodic operational inspections of penetrant equipment
27	I200	Perform preoperational inspections of penetrant equipment
28	I201	Perform process control of developers
29	I202	Perform process control of dryers
30	I203	Perform process control of new materials
31	I204	Perform process control of penetrants
32	I205	Perform process control of removers or emulsifiers

33	I206	Perform process control of rinse stations
34	I207	Select penetrant dwell times by reference to technical data
35	I208	Select penetrant methods
36	K247	Calibrate ultrasonic flaw detection equipment
37	K252	Identify ultrasonic flaw detection indications
38	K254	Inspect parts with longitudinal waves using pulse echo method
39	K256	Inspect parts with shear waves
40	K258	Interpret ultrasonic flaw detection indications
41	K261	Maintain serviceability of reference standards or in-use standards
42	K262	Perform operator maintenance on ultrasonic equipment
43	K263	Perform periodic operational inspections of ultrasonic equipment
44	K264	Perform preoperational inspections of ultrasonic equipment
45	K265	Perform process control of ultrasonic transducers, such as angles of incidence or skew angles
46	K266	Perform process control of ultrasonic units, such as linearity checks
47	L268	Calculate amperage requirements
48	L269	Demagnetize materials
49	L270	Develop or improve magnetic particle inspection techniques
50	L271	Identify magnetic particle indications
51	L272	Interpret magnetic particle indications
52	L277	Perform operator maintenance on magnetic particle equipment
53	L278	Perform periodic operational inspections of magnetic particle equipment
54	L279	Perform preoperational inspections of portable magnetic particle equipment
55	L280	Perform preoperational inspections of stationary magnetic particle equipment
56	L281	Perform process control of portable magnetic particle units or materials, such as dead weights or spray cans
57	L282	Perform process control of stationary magnetic particle baths
58	L283	Perform process control of stationary magnetic particle equipment, such as quick-break checks or shunt meter checks
59	L284	Perform wet continuous magnetic particle inspections using portable equipment
60	L285	Perform wet continuous magnetic particle inspections using stationary equipment
61	L286	Perform wet residual magnetic particle inspections using portable equipment
62	L287	Perform wet residual magnetic particle inspections using stationary equipment
63	L289	Select residual or continuous application of magnetic particles
64	L290	Select types of currents to use for demagnetization
65	L291	Select types of magnetism to use for inspections
66	M293	Calibrate eddy current impedance analysis equipment using standards and technical data
67	M295	Check eddy current equipment sensitivities using standards
68	M297	Identify eddy current impedance analysis indications
69	M299	Interpret eddy current impedance analysis meter indications
70	M303	Perform eddy current flaw detection inspection techniques, other than thickness measurement
71	M305	Perform operator maintenance on eddy current equipment
72	M306	Perform periodic operational inspections of eddy current equipment
73	M307	Perform preoperational inspections of eddy current equipment
74	M309	Select eddy current probes and equipment

0002 Stage 203: RADIOGRAPHIC INSPECTION

1	J209	Assemble or disassemble radiographic exposure equipment
2	J211	Clear barrier areas of unauthorized personnel
3	J212	Clear exposure areas of all personnel
4	J216	Coordinate outside radiographic inspections with maintenance control
5	J218	Determine if radiographic densities meet predetermined standards
6	J219	Determine if radiographic sensitivities meet predetermined standards
7	J220	Determine placements and positions of radiation warning equipment
8	J221	Develop or improve radiographic exposure techniques
9	J222	Develop radiographic film automatically
10	J224	Identify radiographic indications
11	J225	Interpret radiographic indications
12	J226	Measure radiation exposure levels using radiation survey meters
13	J227	Perform film exposure corrections
14	J228	Perform operator maintenance on film processing equipment
15	J229	Perform operator maintenance on radiographic equipment
16	J230	Perform periodic operational inspections of film processing equipment
17	J231	Perform periodic operational inspections of radiographic equipment
18	J232	Perform preoperational checks of x-ray interlock and warning light systems
19	J233	Perform preoperational inspections of film processing equipment
20	J234	Perform preoperational inspections of radiographic equipment
21	J235	Perform process control of films
22	J236	Perform process control of radiographic chemicals
23	J237	Perform process control of safelights
24	J238	Perform radiographic exposure techniques
25	J239	Post radiation monitors
26	J240	Prepare films for exposures
27	J241	Select film types for radiographic inspections
28	J244	Select radiographic units prior to performing inspections

0003 Stage 231: OIL ANALYSIS

1	E119	Prepare transit JOAP records
2	N310	Analyze correlation samples
3	N311	Archive aircraft JOAP data
4	N314	Compare oil samples received from maintenance against flying schedules
5	N316	Determine sources of wear metals or contamination
6	N317	Ensure proper alignment of rod sharpening tools
7	N318	Enter oil analysis results into data bases automatically
8	N319	Enter oil analysis results into data bases manually
9	N321	Perform accuracy and repeatability calculations on atomic emission spectrometers
10	N323	Perform accuracy and repeatability verification checks on atomic emission spectrometers
11	N324	Perform complete calibration verification checks on atomic emission spectrometers
12	N326	Perform JOAP trend analysis
13	N328	Perform operator maintenance on atomic emission spectrometers
14	N331	Perform periodic operational inspections of atomic emission spectrometers
15	N333	Perform preoperational inspections and daily standardization of JOAP equipment
16	N336	Prepare JOAP samples for atomic emission spectrometers
17	N337	Prepare oil analysis records for transient aircraft

18	N339	Prepare standards for atomic emission spectrometers
19	N341	Process oil samples using atomic emission spectrometers
20	N344	Review DD Forms 2026 (Oil Analysis Request) for accuracy
21	N345	Sharpen or polish rod electrodes
22	N347	Standardize atomic emission spectrometers
23	N350	Update aircraft JOAP records in data bases

0004 Stage 194: CAMS

1	B41	Inventory equipment, tools, or supplies
2	F120	Access CAMS menus and screens
3	F123	Change CAMS printer paper
4	F126	Clear or closeout completed discrepancies in CAMS
5	F134	Open or close CAMS
6	F135	Perform CAMS inquiries for scheduled aircraft or support equipment discrepancies
7	F137	Perform CAMS inquiries for uncompleted maintenance event listings

0005 Stage 157: DATA FILE MAINTENANCE

1	E97	Document process control results
2	E98	Maintain aircraft inspection history files
3	E100	Maintain equipment within AFOSH standards, such as eyewash checks and continuity checks
4	E107	Maintain radiographic film libraries

0006 Stage 145: MAGNETIC PARTICLE/EDDY CURRENT

1	L292	Select types of particles to use for inspections
2	M296	Develop or improve eddy current inspection techniques
3	M308	Perform resistance and continuity checks on eddy current probes

007 Stage 196: EDDY CURRENT PHASE ANALYSIS

1	M294	Calibrate eddy current phase analysis equipment using standards and technical data
2	M298	Identify eddy current phase analysis indications
3	M300	Interpret eddy current phase analysis indications
4	M301	Interpret strip chart recordings indications

008 Stage 87: JOAP PROCESSING

1	E96	Document JOAP hits or misses
2	E101	Maintain JOAP correspondence files
3	E102	Maintain JOAP inspection report files
4	E103	Maintain JOAP request records
5	E113	Prepare JOAP error listings
6	E114	Prepare JOAP maintenance action reports
7	N315	Copy JOAP data from hard disks to floppy disks
8	N325	Perform diagnostic checks of spectrometers, other than repeatability and accuracy calculations
9	N334	Prepare correlation results form letters
10	N343	Produce back-up data for JOAP inspections
11	N349	Transfer or receive JOAP data to host computers

009 Stage 164: JOAP DATA

1	N315	Copy JOAP data from hard disks to floppy disks
2	N325	Perform diagnostic checks of spectrometers, other than repeatability and accuracy calculations
3	N334	Prepare correlation results form letters
4	N343	Produce back-up data for JOAP inspections

010 Stage 93: RECORDS MAINTENANCE

1	E95	Complete miscellaneous supply forms, such as AF Forms 2005 (Issue/Turn in Request)
2	E108	Maintain repair cycle control logs
3	E110	Maintain technical library files, such as technical orders (TOs) or Air Force Regulations (AFRs)
4	E111	Maintain test measurement or diagnostic equipment (TMDE) status records or charts

011 Stage 100: ULTRASONIC TRAINING

1	K246	Calibrate thickness measurement equipment
2	K248	Determine modes of transmission, geometries, and frequencies required for selection of transducers
3	K249	Develop or improve ultrasonic flaw detection techniques
4	K260	Interpret ultrasonic thickness measurement readings

012 Stage 190: COMPOSITE TRAINING

1	H172	Calibrate bond testing equipment to known standards
2	H173	Calibrate composite testing equipment to known standards
3	H177	Identify bond testing indications on composite structures
4	H179	Interpret bond testing indications on composite structures
5	H181	Perform coin-tap or tap hammer tests
6	H187	Perform ultrasonic bond testing on composite structures using pulse-echo method

013 Stage 212: BOND TESTING

1	H178	Identify bond testing indications on metallic structures
2	H180	Interpret bond testing indications on metallic structures
3	H184	Perform operator maintenance on bond testing equipment
4	H185	Perform periodic operational inspections of bond testing equipment
5	H186	Perform preoperational inspections of bond testing equipment
6	H189	Perform ultrasonic bond testing on metallic structures using pulse-echo method

014 Stage 43: FILM PROCESSING

1	J210	Charge dosimeters
2	J213	Collect silver using canister method
3	J217	Determine efficiency of silver recovery systems
4	J223	Develop radiographic film manually

015 Stage 201: SUPERVISE AND TRAIN 2A752

1	A8	Establish performance standards for subordinates
2	A9	Establish work methods, production controls, or inspection procedures
3	A10	Establish work order priorities
4	A13	Plan or schedule work assignments
5	B26	Counsel personnel on personal or military-related matters
6	B27	Develop or improve work methods or procedures
7	B40	Interpret policies, directives, or procedures for subordinates
8	B43	Resolve technical problems for subordinates
9	B47	Supervise NDI Specialists in AFSC 45851
10	C49	Conduct performance feedback (PFW) evaluation sessions
11	C50	Conduct self-inspections
12	C69	Write EPRs

016 Stage 154: SUPERVISE AND TRAIN 2A732

1	B44	Supervise Apprentice Nondestructive Inspection (NDI) personnel in Air Force Specialty Code (AFSC) 45831
2	D74	Conduct OJT
3	D77	Counsel trainees on training progress
4	D86	Evaluate progress of trainees

017 Stage 124: CHEMICAL/PRECIOUS METALS CONTROL

1	B30	Direct hazardous communications programs
2	B31	Direct hazardous or recyclable materials disposal programs
3	B35	Direct precious metals recovery programs
4	E93	Certify status of reparable, serviceable, or condemned parts
5	E94	Compare new chemicals with quality product listings

018 Stage 96: MAINTENANCE OF EQUIPMENT AND FILES

1	B23	Coordinate equipment maintenance or inspection processing with appropriate agencies
2	B29	Direct development or maintenance of status boards, graphs, or charts
3	B33	Direct maintenance of administrative or technical files
4	B34	Direct maintenance or utilization of equipment
5	E104	Maintain material control functions, such as benchstock or shop stock
6	E105	Maintain NDI correspondence files, except JOAP
7	E106	Maintain NDI report files, except JOAP
8	E109	Maintain supply transaction listings, such as daily document registers or priority monitor reports

019 Stage 139: SUPERVISORY TASKS

1	A1	Assign personnel to duty positions
2	A2	Assign sponsors for newly assigned personnel
3	A3	Determine requirements for space, personnel, equipment, or supplies
4	B48	Supervise NDI Technicians in AFSC 45871

020 Stage 186: EVALUATE SAFETY AND STORAGE PROCEDURES

1	C57	Evaluate maintenance or use of workspace, equipment, or supplies
2	C60	Evaluate procedures for storage, inventory, or inspection of property items
3	C62	Evaluate radiation safety programs
4	C63	Evaluate safety programs, other than radiation safety

021 Stage 184: RADIATION SAFETY

1	A14	Plan radiation safety programs
2	A15	Plan safety programs, other than radiation safety
3	A18	Schedule personnel for leaves, passes, or temporary duty (TDY)
4	B22	Coordinate annual radiation surveys with bioenvironmental personnel
5	B24	Coordinate film badge concerns with bioenvironmental, such as issues or turn-ins
6	B36	Direct radiation safety programs
7	B38	Implement safety programs or procedures

0022 Stage 138: PROGRAM PLANNING/DIRECTING

1	A6	Establish joint oil analysis program (JOAP) programs
2	A7	Establish organizational policies, office instructions (OIs), or standing operating procedures (SOPs)
3	A12	Plan or prepare briefings
4	B32	Direct JOAP programs

023 Stage 119: OJT

1	D72	Assign on-the-job training (OJT) trainers
2	D78	Determine training requirements, such as OJT or resident course training requirements
3	D82	Direct OJT programs
4	D87	Evaluate training methods, techniques, or programs

024 Stage 45: CAMS

1	F122	Change CAMS job standard narratives
2	F124	Change CAMS work unit codes
3	F125	Change CAMS workcenter narratives
4	F127	Conduct CAMS training
5	F128	Coordinate CAMS problems with data base managers
6	F129	Correct CAMS errors noted during daily verification process
7	F130	Create aircraft or support equipment discrepancies in CAMS
8	F131	Defer aircraft or support equipment discrepancies in CAMS
9	F132	Determine CAMS training requirements
10	F133	Maintain workcenter training programs using CAMS
11	F136	Perform CAMS inquiries for training status
12	F138	Perform CAMS inquiries to monitor delayed discrepancies prior to, during, or after scheduling maintenance
13	F139	Perform CAMS interface with base supply systems, such as checking parts status or ordering maintenance assets
14	F140	Plan or schedule CAMS training
15	F141	Reschedule aircraft or support equipment discrepancies in CAMS
16	F142	Review and update CAMS error listings
17	F143	Schedule aircraft or support equipment discrepancies in CAMS

18	F144	Start or stop CAMS job following events
19	F145	Track CAMS job following events
20	F146	Track manning data using CAMS
21	F147	Verify accuracies of daily inputs in CAMS

025 Stage 29: CLASSROOM TRAINING

1	D71	Administer or score tests
2	D76	Conduct training conferences or briefings
3	D83	Direct training programs, other than OJT
4	D84	Establish or maintain study reference files
5	D89	Procure training aids, space, or equipment

026 Stage 31: MOBILITY

1	O351	Accomplish mobility processing checklists
2	O352	Build mobility pallets
3	O353	Detect and report chemical warfare agents
4	O354	Determine load lists or placards for mobility pallets
5	O356	Determine weights of mobility containers or pallets
6	O357	Don or doff chemical warfare personal protective clothing
7	O358	Establish equipment security at mission locations
8	O359	Fire weapons for proficiency
9	O360	Identify and report suspected ordnance
10	O361	Inspect mobility containers or pallets
11	O362	Maintain immunization records
12	O363	Maintain security throughout flight phase of deployments
13	O364	Pack or unpack individual mobility equipment for deployments
14	O365	Pack or unpack mobility containers or pallets
15	O366	Participate in predeployment mobility briefings
16	O370	Perform decontamination procedures for chemical warfare agents
17	O372	Perform first-aid lifesaving techniques
18	O373	Place load lists or placards on mobility pallets
19	O374	Practice alert force exercises
20	O375	Prepare itemized listings for mobility containers
21	O376	Prepare mobility containers or pallets for air shipment
22	O377	Prepare personal clothing and equipment for deployments
23	O378	Prepare shipping documents or forms or reshipment documents or forms for mobility equipment
24	O380	Store equipment at mission locations
25	O381	Weatherproof mobility containers or pallets

0027 Stage 72: ULTRASONIC LEAK DETECTION

1	K250	Develop or improve ultrasonic leak detection techniques
2	K251	Develop or improve ultrasonic thickness measurement techniques
3	K253	Identify ultrasonic leak detection indications
4	K259	Interpret ultrasonic leak detection indications

028 Stage 14: MAGNETIC PARTICLE INSPECTIONS

1	I194	Inspect parts using lypophillic method (Method B)
2	L267	Apply or remove magnetic rubber
3	L273	Perform dry continuous magnetic particle inspections using portable equipment
4	L274	Perform dry continuous magnetic particle inspections using stationary equipment
5	L275	Perform dry residual magnetic particle inspections using portable equipment
6	L276	Perform dry residual magnetic particle inspections using stationary equipment

029 Stage 15: SPECTROMETRY

1	N312	Assemble or disassemble atomic absorption spectrometers
2	N320	Perform accuracy and repeatability calculations on atomic absorption spectrometers
3	N322	Perform accuracy and repeatability verification checks on atomic absorption spectrometers
4	N327	Perform operator maintenance on atomic absorption spectrometers, except portable wear metal analyzers (PWMAs)
5	N329	Perform operator maintenance on PWMA spectrometers
6	N330	Perform periodic operational inspections of atomic absorption spectrometers, except PWMAs
7	N332	Perform periodic operational inspections of PWMA spectrometers
8	N335	Prepare JOAP samples for atomic absorption spectrometers
9	N338	Prepare standards for atomic absorption spectrometers
10	N340	Process oil samples using atomic absorption spectrometers, except PWMAs
11	N342	Process oil samples using PWMAs
12	N346	Standardize atomic absorption spectrometers, except PWMAs
13	N348	Standardize PWMA spectrometers

030 Stage 8: TRAINING

1	B45	Supervise civilians
2	C68	Write civilian performance ratings or supervisory appraisals
3	D73	Assign resident course instructors
4	D75	Conduct resident course classroom training
5	D79	Develop curriculum materials, other than resident course
6	D80	Develop resident course curriculum materials
7	D81	Develop tests
8	D91	Write test questions
9	D92	Write training reports
10	E116	Prepare overexposure reports
11	E117	Prepare reports of survey
12	E118	Prepare statements of charges

031 Stage 2: CUT

1	O367	Perform aircraft cocking or uncocking procedures
2	O368	Perform cargo courier duties
3	O369	Perform classified courier duties
4	O371	Perform disease and pestilence countermeasures
5	O379	Reconfigure aircraft for specific mission requirements
6	P382	Apply external alternating current (AC) and direct current (DC) power to aircraft
7	P383	Assist in aircraft brake changes
8	P384	Assist in aircraft ground defueling operations
9	P385	Assist in aircraft ground refueling operations
10	P386	Assist in aircraft preflight or postflight inspections
11	P387	Assist in aircraft tire changes
12	P388	De-ice aircraft
13	P390	Marshall aircraft
14	P391	Perform wing walking
15	P392	Place or remove aircraft wheel chocks
16	P393	Service aircraft latrines
17	P394	Tow aircraft
18	P395	Wash aircraft

032 Tasks not referenced

1	A4	Develop organizational or functional charts
2	A5	Draft budget requirements
3	A11	Plan layouts of facilities
4	A16	Plan security programs
5	A17	Review mobility, disaster preparedness, or unit emergency or alert plans
6	A19	Write job descriptions
7	B20	Complete personnel action requests
8	B21	Conduct staff meetings
9	B25	Coordinate periodic physical examinations with medical facilities
10	B28	Direct computer security programs
11	B37	Implement cost-reduction programs or procedures
12	B39	Implement security programs or procedures
13	B42	Maintain or update contingency plans
14	B46	Supervise military personnel with AFSCs other than 458X1
15	C51	Evaluate administrative forms, files, or procedures
16	C52	Evaluate budgeting requirements
17	C53	Evaluate individuals for promotion, demotion, or reclassification
18	C54	Evaluate inspection report findings
19	C55	Evaluate inspection techniques of subordinates
20	C56	Evaluate job descriptions
21	C58	Evaluate mobility, disaster preparedness, or unit emergency or alert plans
22	C59	Evaluate new inspection technique procedures
23	C61	Evaluate process control programs
24	C64	Evaluate security programs
25	C65	Evaluate suggestions
26	C66	Indorse enlisted performance reports (EPRs)
27	C67	Investigate accidents or incidents

28	C70	Write staff studies, surveys, or special reports, other than training reports
29	D85	Evaluate performance of instructors or trainers
30	D88	Maintain training records, charts, or graphs, other than core automated maintenance system (CAMS)
31	D90	Select individuals for specialized training
32	E99	Maintain due-in from maintenance (DIFM) forms or listings
33	E112	Perform cost comparisons when ordering or upgrading materials
34	E115	Prepare narrative correspondence in draft or final form
35	F121	Analyze CAMS data
36	G154	Identify material types or compositions using conductivity meters
37	G166	Record indications by photographic methods
38	G167	Record indications by scotch tape methods
39	G168	Record indications by sketch methods
40	G169	Remove or dispose of hazardous or recyclable materials
41	H174	Design bonded structure standards, such as skin-to-core or metal-to-metal
42	H175	Develop or improve bond testing inspection techniques
43	H176	Develop or improve composite testing inspection techniques
44	H182	Perform eddy sonic testing on composite structures
45	H183	Perform eddy sonic testing on metallic structures
46	H188	Perform ultrasonic bond testing on composite structures using through transmission method
47	H190	Perform ultrasonic bond testing on metallic structures using through transmission method
48	I196	Inspect parts using water washable penetrant method (Method A)
49	J214	Collect silver using chemical precipitation method
50	J215	Collect silver using electrolytic method
51	J242	Select image quality enhancers, such as lead shields or lead screens
52	J243	Select image quality indicators, such as penetrameters or step wedges
53	K245	Assemble or disassemble ultrasonic flaw detection equipment
54	K255	Inspect parts with longitudinal waves using through transmission method
55	K257	Inspect parts with surface waves
56	M302	Perform conductivity testing using eddy current equipment
57	M304	Perform eddy current thickness measurement inspections
58	N313	Clear JOAP data base computer-generated alarms
59	O355	Determine personnel or equipment requirements for mission deployments
60	P389	Inspect ramp areas for foreign object damage (FOD) matter